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The Hunterian Oration

ON

JOHN HUNTER AND HIS MUSEUM.

Delivered at the Royal College of Surgeons of England on Feb. 14th, 1911,

BY EDMUND OWEN, D.Sc. SHEFF., F.R.C.S. ENG.,

CONSULTING SURGEON TO ST. MARY'S HOSPITAL, LONDON.

MR. PRESIDENT,—The century lacks but two years of completion when Dr. Matthew Baillie and Sir Everard Home, John Hunter's executors, in their desire to show a lasting respect to his memory, provided for the delivery of an oration on Feb. 14th, his birthday. And although one should not now expect on these occasions to hear anything fresh concerning Hunter, still we come to the familiar subject as one goes to a favourite drama or turns to some well-loved book.

Adequately to deal with the work of this many-sided man, the orator should be of philosophic mind, and well instructed in the history of surgery, and he should have a profound knowledge of plants and animals—not only in health but also in disease. It being thus beyond my reach to touch more than the fringe of Hunter's scientific work, I shall content myself with speaking of him as a man, and as the founder of a museum which is without a rival in the world. Of some men it may be said, as St. Paul disparagingly remarked of himself, that they are "born out of due time." Some, indeed, so far in advance of it, that the intellectual seed which they laboriously sow produces but a sorry crop, or lies decaying in the soil. Hunter, however, was happy in the date of his birth. Had it been delayed by, let us say, a century and a half, so that at the present time he would be approaching what the poet calls the "midway of the journey of life," he could not have attained the commanding position which, as it was, he occupied in so many branches of science. And had his birth been thus delayed, would he have chosen the philosopher's path which leads to the Temple of Wisdom? Would he have worked in the field which proved so attractive to Darwin, or in that to which Pasteur devoted his great mind? Would he have developed into a pathologist of world-wide reputation—like Billroth; would he have contented himself with being the foremost surgeon of his day, or would his thirst for collecting have triumphed over everything else? He could not filled each part. I am inclined to think that he would have given up everything in order to devote himself to biology.

John Hunter was the youngest of ten children, most of whom died early. It may have been on this account that his mother spoilt him—though *spoilt*, in this case, can hardly be the proper word. At any rate, he was allowed to have things very much his own way, his mother making him her Benjamin. It is good for no man to have things too much his own way at any time of life—least of all, at the beginning. And it might have been better for Hunter if his mother, instead of constantly giving way to him, had helped him in early life to obtain a command over his temper. For our hero was apt to be overbearing in his dealings with others, and intolerant when his wishes were thwarted. And this is made painfully evident as we come to deal with the closing years of his life. When he was about 17 he went to stay with his brother-in-law, a cabinet-maker at Glasgow, and, being very proud of the skill with which he could use his hands, he delighted to help in the workshop. And so the statement has become current that Hunter began life as a joiner, which is very far from fact.

It is apt to be set forth in the life-history of any person who has made for himself a high position in the world of science, literature, or art, that from early childhood he was seen to be in possession of unusual talent in that direction. Thus, for instance, Cimabue showed first proof of his great gift by making remarkable sketches upon his lesson-books, and it is related that certain popular preachers used to give displays of talent by fervid outbursts of oratory in the nursery or school-room—which, to the common type of man, might seem out of place or even unwholesome.

But so it was not with Hunter. He was quite an ordinary boy. To use the words of his biographer, "having little taste for books, he preferred in engaging in country sports to studying those elementary branches of knowledge which are best acquired in youth." In dwelling upon the story of his life it is a pleasure to meet with such an estimate of his character, for it supplies the needful human touch. At the time that John Hunter was getting out of his teens, his elder brother, William, was conducting with great success a private medical school in Windmill-street, Haymarket. He was a man of unrivalled talent, and though he was not connected with any hospital, had established a great reputation for himself as a teacher of anatomy and surgery. John was much interested in, and his imagination was set on fire by, the accounts which he heard of his brother, and, as has so often been the case with self-reliant and enterprising young Scotchmen, he also desired to travel along that broad and pleasant road which leads from the stern country of his birth to the Mother city of the Empire. So he wrote to William asking that he might be taken as an assistant in his dissecting-room. A favourable reply having been received, John left Scotland on horseback for London in September, 1747. Up to that time he had been looked upon as an idler. Not infrequently it happens that a boy who has not yet been put to the work for which Nature intended him, has been thus regarded, till, by a happy turn of the wheel of Fortune, he finds the occupation for which he was fitted. On arriving in London, John was at once put to work upon a dissection which was wanted for his brother's October lectures. This he did with such skill that he at once gained the entire confidence of his brother. William had been afraid that John might turn out but an idle apprentice. And though he stuck closely to his work in the dissecting-room and at the hospital, he lived outside of them a somewhat free and reckless life. Like an ordinary, human, young man, "Jack Hunter," as he was called, liked to shake off restraint at times—and he shook it off very thoroughly.

CHESELDEN AND POTT.

It is a proof, if proof were needed, of the warm interest which William Hunter took in the shaping of his brother's career, that he obtained for him the practical teaching and the friendship of the illustrious Cheselden, of St. Thomas's Hospital, one of the greatest of English surgeons. He it was who invented the operation of lateral lithotomy; and when French surgeons came over to learn his art, they saw him operate on 27 patients for stone in the bladder in succession without a loss. And this, be it remembered, when stones, left uninterfered with, grew to enormous size, and when operations had not yet been made easy for the surgeon by the help of chloroform, nor safe for the patient by the adoption of methods of cleanliness. Richardson's portrait of Cheselden, which you see before you, shows him as a cheery-looking individual who might never have known an anxious moment. History tells, however, that he was of such delicate fibre, that whenever he had to perform a serious operation he felt sick at the thought of the pain which he was about to inflict. And, as he was constantly operating, it must needs be that his mind was much troubled. He was 60 years old when John Hunter was brought to him—a worthy pupil for so great a master. Four years later he died from apoplexy, a not uncommon cause of death of members of his profession—the result of high arterial tension brought on by ceaseless work. There is no eight-hours days for the medical man; he cannot reckon on Saturday as a half-holiday, nor Sunday as a day of rest. It is this continuity of work, this never ending strain of tissues, which brings about the early loosing of the silver cord, the breaking of the golden bowl Being thus compelled to look elsewhere for instruction, Hunter became a pupil of Percivall Pott at St. Bartholomew's Hospital. A better choice could not have been made.

On the left of Hunter you see the portrait of Pott, by Romney, whom Reynolds disparagingly alluded to as "the man in Cavendish-square"—Romney whose delicate brush lingered so lovingly over the captivating features of Nelson's Lady Hamilton. These three pictures have, by leave of the President, been brought down from our Council Room, where for many years they have hung side by side and where, we trust, in spite of all changes which may take place in the social and educational life of this country, they may continue happily to remain till Time shall be no more. At the

present day portraits of women by Romney are chiefly sought after, but I think that I would as willingly possess his picture of Pott as any that he painted. Even the most successful portrait painter cannot always choose his subjects, but when Romney had Pott seated before him he must surely have been satisfied, for truly his is a beautiful face! Those who can read a man's character in his features will form the opinion that Pott was a true English gentleman. And their conclusion will be right. His devotion to his mother was romantic and intense; his kindness of heart was proverbial, and at one time he had three needy surgeons living under his hospitable roof. He was a man of high character and blameless life. Shortly after his death his friend, Sir James Earle, collected his writings and published them, together with a short account of Pott and of his work. He said that the labours of the greatest part of his life were without relaxation, but that in his later years he took things more easily, "gathering," as Pott had expressed it, "some of the fruit of the garden which he had planted as he went along."

Though, after Pott's death, Hunter was by far the greatest surgeon of the time, still he seemed to practise his art chiefly to earn money for making additions to his museum. He greatly disliked being called away from the museum. "Well," said he, on one occasion, when he was summoned to see a patient, "I must go and earn this damned guinea, or I shall be sure to want it to-morrow." Ottley, his biographer, apologises for the strength of Hunter's language, and tells us that he has generally omitted the swear-words, as "the objections to introducing them appeared to outweigh any advantage that such verbal exactness could afford." Perhaps he was right; but I confess that I would have preferred Hunter's unpolished expressions just as they came from the mint of his strong brain. Moreover, one almost expects to hear such words echoing from the days when men wore velvet coats and silk stockings, and were accustomed to say just what they thought—and to say it clearly and forcibly. True it is that at this time Bob Acres remarked that the best terms grow obsolete, and that damns had had their day. But Sheridan's poetic imagination seemingly led him to anticipate.

Hunter's unfriendly biographer Jesse Foot wrote: "John could never talk of his injuries, but would get rid of the passions they provoked in him by the bitterest utterings of swearing—Sterne's Dr. Slop could not have been a match for him." It was pure spite that made Foot compare Hunter with that old-fashioned Yorkshire apothecary, who, we know, was unusually free in his speech. When, as you may remember, Dr. Slop cut his thumb in trying to loosen the string which Obadiah had so tightly knotted around that green baize bag, Sterne says, "It would have done your heart good, and cured you, Sir, for ever, of the vile sin of swearing to have heard him." But I am indignant at Foot comparing John Hunter with Dr. Slop! My opinion is that he was jealous of the great reputation which Hunter had obtained in a class of practice in which he, Foot, was specially interested.

HUNTER AND JENNER.

It would be impossible to give even a short account of the life of Hunter without speaking of the close friendship which existed between him and one of his former pupils, a doctor in general practice upon the Gloucestershire bank of the river Severn, Edward Jenner—one of England's greatest men. His discovery that the passing of the harmless germs of cow-pox through the blood renders a person secure against small-pox was not revealed until after Hunter's death. But we may permit ourselves to imagine the pleasure with which he would have regarded the philosophic bearings of Jenner's investigations, and the delight with which he would have hailed their conclusion. But what would he have thought, could he have foreseen that his friend's glorious discovery would at length be made a shuttlecock of political agitators, and that the cause of vaccination in the country of its birth should be so grievously neglected, that its compulsory adoption became a farce? The day of reckoning will surely arrive: England is sowing the wind, and she will not fail to reap the whirlwind. But, unfortunately, when the inevitable outbreak of small-pox takes place, among its victims will also be the ignorant and helpless.

Letter-writing was a far more important business 140 years ago than it is now; the art has been killed by the penny post. When Hunter was corresponding with his friend the postage of each letter cost at least 4*d*., which is equivalent to about 8*d*. at the present day. Hunter's letters to Jenner are delightful; and it is a great pity that we cannot have Jenner's in reply. In every letter Hunter is urging his friend to find material for his museum—fish, flesh, fowl—anything that has life, or that ever had it. And he was willing and anxious to pay for it. "You see," said he, "I am very greedy. Be sure you keep an account of all out-goings."

As a kind of set-off to what Jenner did for the museum, Hunter was more than ready with advice and help to his distant friend when surgical patients caused anxiety in his practice. Now, in the winter of 1776 a particular case was giving Jenner much anxiety. It was that of a boy with an open wound in his skull, from which a mushroom-like growth was bulging. Jenner did not know how to cure the boy; if he had lived at the present day he would have been no wiser. So he begged Hunter to advise him. "I don't know any one I would as soon write to as to you," replied Hunter, and he then thanked him for certain things which he had sent for his museum, and remarked that he had not yet received the cuckoo's nest. He would have had to wait a long while for a nest of that out-and-out socialist of the feathered tribe, who leaves to others the responsibility of the housing, the rearing, the feeding, and the education of his offspring!

> Now for your patient. I believe the best thing you can do is to do little. I would not touch the fungus with a caustic for fear the brain should be near. Keep your patient rather low and quiet.

And what excellent advice it was! Could the Council of the College of Surgeons of to-day suggest anything better? But Jenner was not satisfied, for in a little while he was again questioning about the boy. And Hunter, with his museum in his thoughts, wrote in reply:—

> Send everything you can get, either animals, vegetable, or mineral, and the compound of the two, either animal or vegetable mineralised. I would have you do nothing with the boy but dress him superficially; these funguses will die and be damned to them, and drop off. Have you large trees, of different kinds, that you can make free with? If you have, I will put you upon a set of experiments with regard to the heat of vegetables. Have you any eaves where bats go to at night?

And so on. Still Jenner was not satisfied, and in less than a fortnight he was again writing about this worrying case. Hunter replied:—

> I would advise you not to meddle with it. Be quiet; and think yourself well off that the boy is not dead. You do not mention a word about bats. Have you got the bones yet of a large porpoise? I wish you had. Is ever the salmon-spawn seen after she has parted with it? If it is, I wish you could get some. I want to examine the spawn of fish in the progress of the formation of the young one.

In the next letter Hunter is asking again about the salmon-spawn, and is suggesting that Jenner should undertake some work upon the sex question of eels. He appealingly ends the letter by asking, "Cannot you get me a large porpoise for love or money?"

I am tempted to keep you one moment more over these letters because, being written to his dearest friend, they show the inmost working of his mind, and they plainly tell us that the one thought of his life was his museum:—

> Dear Jenner, I received your salmon, and very fresh, and just examined enough to want another. I will take a cock-salmon when you please. If you catch any bats, let me have some of them. Did I write to you some time ago about cuckoos? I have forgot; if I did not, I must give you a long order.

He does not ask about that boy; nor, so far as one knows, does Jenner trouble him any further in the matter.

At about this time Jenner had fallen deeply in love, and just when things seemed to be leading up to a happy marriage black disappointment threw over them his pall. Hunter, ignorant of what was going on in Gloucestershire, continued to write for various objects for the museum. But he received no response. Then he heard a rumour of Jenner being married, so wrote to congratulate him, sandwiching his congratulations between remarks on hedgehogs and fossils. On the broken-hearted Jenner replying that not only was he not married, but that, unhappily, all was over between the lady and himself, his friend replied:—

> I own I was at a loss to account for your silence, and I was sorry at the cause. I can easily conceive how you must feel. But let her go, and never mind her. I shall employ you with hedgehogs.

And then he gave him a list of investigations which he was to make with these animals. His museum was always in the front of his mind. Whether he was writing about a patient or about his own serious breakdown, or about his friend's

marriage or his grievous disappointment, he was ever thinking what he could do to render his museum more complete, and so to increase its value as an educational institution. Another great reason for his anxiety to make it more perfect was, as his brother-in-law tells us, that it might sell the better after his death, for, having spent almost all his fortune over it, he had been able to make scarcely any other provision for his family; "his expenses had always exceeded his income."

HUNTER'S DAILY LIFE.

Hunter was at work in his museum from dawn till breakfast; and he was in his consulting-room or in his carriage, and visiting his hospital or his private patients, from breakfast till dinner—which he took, according to the custom of the day, at 4 o'clock. After dinner he went to sleep for an hour, and then sat down to write letters and essays, to work up clinical records, or to describe preparations for his museum. At midnight the butler brought him in a fresh lamp, by the light of which he continued to work on till one or two in the morning, or even later in winter. So that, including the nap which he had after dinner, he was apt to get but four or five hours' sleep out of the 24. We are plainly told that he had no home amusements, and that he took his greatest pleasure amongst the wild animals which he kept in the garden of his house in Earl's Court where he slept, and where, with his family, he spent the greater part of his time in the autumn months. What a life to live! Which of us would accept it, even to be, as Hunter is, immortal? But Nature, ever jealous, could not pardon even him, her devout and loving disciple, for so long and complete a neglect of her unwritten laws. As far as one can make out, he took no bodily exercise, and sought little mental relaxation. The bow was never unstrung. As one looks back upon this unresting student of Nature one can scarcely help regretting that he had no experience of those two amusements over which men and women of to-day are apt to waste so large an amount of time—golf and bridge. As recreations for intellectual workers, what more suitable; as life's chief occupations, what more pitiable!

There is little to suggest that outside of the science and practice of his profession Hunter found much to interest him. The letters which he wrote and received, or, at any rate, those of them which have been preserved and published, make no allusion to sport or pastime; and there is no mention of foreign travel, that delightful relaxation for a busy man with no special interest in the pleasures of country life. Indeed, Hunter's one and only happiness was in intellectual work, and especially in that which concerned his museum. Every medical man should make for himself interests outside of his profession to which he can devote himself in the odd times in which he can escape from the anxieties of his occupation. Intemperance in work is well-nigh as harmful as intemperance in eating or in drinking. In the absence of outside interests a medical man is truly to be pitied. When, with advancing years, he unwillingly retires from the contest, if there is nothing better for him to do than to look wistfully backwards or sorrowfully forwards the evening of his life must, indeed, be dark and miserable. But happily there was no evening to Hunter's life; he died before the lengthening shadows fell across his path.

HUNTER AND THE COLLEGE OF SURGEONS.

The records of our corporation show that at a Court of Examiners held in July, 1768, John Hunter was examined for and received his diploma. Amongst his examiners was his former master, Percivall Pott. Hunter was then 40 years old. Already we have heard of him in connexion with the Corporation in the minutes of the Court of Assistants of July, 1753, where it is stated that Pott and Hunter were elected Masters of Anatomy.

In accordance with the by-laws, the Court had to make six anatomical appointments each July—two Stewards of Anatomy, two Wardens of Anatomy, and two Masters. The business of the stewards was to prepare the subjects for the lectures; of the wardens, to act as demonstrators; and of the masters, to give the lectures. It was the duty of the Court of Assistants to choose these officers from amongst the members of the Corporation. The appointments were for one year, and if a member thus chosen said that he wished to be excused from holding the office he was fined "twenty-one pounds lawful money," for so it was nominated in the Bond. The plea of incompetence for the task, or of illness, was not taken as an excuse—the work had to be done or the fine had to be paid. Fines of all sorts were, indeed, the great source of income to our Corporation in those days. In the minutes of the Court of Assistants of Oct. 5th, 1786, it is recorded that Mr. John Hunter had presented to the Corporation two volumes of his "Natural History of the Human Teeth," and a copy of his "Treatise on the Venereal Disease," and in accepting them the Court passed him a vote of thanks. When, in 1745, an Act of Parliament enabled the Surgeons to free themselves from the Barbers, they became a corporation under the Government of a Master and a Court of Assistants—21 in all. Shortly afterwards they built for themselves a Hall in the Old Bailey. And early in 1789, in order to fill the vacancy caused by the death of Pott, Hunter was elected a Member of the Court—which corresponds with the present Council of the College. Appointment was for life, and as Hunter died in 1793 he was a Member of the Court for four and a half years. Foot says that during this time he attended only one meeting. That, however, is a mis-statement—"calculated and frigid."

The Court met quarterly, and it had now and then, in addition, a special meeting. Hunter was elected in February, 1789, and in the following April he came to be admitted, taking the oath and paying the fine of £21. There were three other meetings in the year of his election, at each of which he was present; and there were five in 1790, from only one of which he was absent. There were six meetings in 1791, but he attended only two of them; in 1792 there were six meetings, two of which he attended; and in 1793, in the October of which year he died, he was present only once. Altogether he attended 14 meetings out of 26, which is, indeed, a very poor record. In his last two years he was absent from eight meetings out of eleven, and my explanation for his increasing lack of interest in the affairs of the Court of Assistants is that he got on badly with his fellows, and especially with three highly placed Members who came from his own hospital—Gunning, Walker, and Hawkins. Though there may not have been open enmity between him and them at that time, they certainly were on unfriendly terms. Indeed, Ottley tells us that they were frequently in collision. At a meeting on Nov. 7th, 1793, as recorded in the minutes, "The Master reported that since the last Court of Assistants Mr. John Hunter, a Member of the Court, had departed this life, and declared a vacancy in pursuance of such his death." Nothing further is noted: no resolution of regret or of condolence appears to have been passed. And Dr. Peachey, who has kindly examined for me the minute-books of St. George's Hospital, says that he can find in them nothing more than the bare notification of his death.

There is no denying it, Hunter did not agree with his fellow practitioners. Foot affirms that he hated his equals in the profession, and it was probably true, for Ottley writes that his manner to them was "blunt and overbearing." As Surgeon-General to the Army he had great patronage, and he was in the habit of refusing recommendations which other surgeons made for vacant military appointments, and of giving pretty nearly everything to his own pupils and associates. This made him highly popular amongst his friends, but it was gall and wormwood to the other hospital surgeons, many of whom were upon the Court of Assistants. If he could have foreseen that this College was eventually to have the guardianship of his museum things might have been different. When, six years after his death, Parliament purchased his museum for the nation, it was offered first to the Royal College of Physicians, and it is only because of their declining to accept its custody that Government entrusted it to our keeping. But had the trust been accepted by the Sister College, she would have found a medical and a philosophic side to Hunter's work which would have justified her in giving him an honoured place by the side of her Harvey and her Sydenham. Fortune, however, was not blind when she settled that the world-famed collection, with its countless associations, should be handed over to this College. And justly may it be claimed that nowhere else could the conditions of the trust have been more faithfully or devotedly observed.

HUNTER'S ILLNESS.

It has been truly said that a man is as old as his arteries, and looked at from this point of view, though Hunter's age at his death was under 65, he had for many years been far older than that, for he was the subject of advanced arterial

disease. It is impossible to say at what time the disease began; it comes on so slowly that for a long while there may be nothing to call attention to its presence. But in the spring of 1773 he had an alarming attack of spasm, in which for about three-quarters of an hour his heart stopped beating; it was apparently caused by mental worry. Four years later he had a still more distressing attack, which was also brought on by anxiety. And this time he suffered from a continuous giddiness which prevented him raising his head. The mental shock so affected his feeble heart that it was unable to pump blood to the brain through the narrowed vessels. But though this must have been felt by him to be a warning, he evidently did not allow it to cause him alarm. This is the way in which he refers to it in the middle of a letter which he wrote to Jenner a few weeks afterwards:—

> I had the pleasure of seeing your brother, but only for a time. I received the bird; I am not acquainted with it. Send me some more if you can get them readily. Not two hours after I saw your brother I was taken ill with a swimming in my head, and could not raise it off the pillow for ten days. It is not yet perfectly recovered. Have you begun the eels? No porpoises. No salmon-spawn before it is hatched. You see I am very greedy.

This letter is especially interesting in the light of those other letters. In them, as you remember, when Jenner was anxiously asking how he should deal with that boy with the damaged head, Hunter could, apparently, think of little but his museum. And here, when Hunter is telling Jenner how Death had been giving what was, as a fact, his second loud knock, he refers to it merely as an incident, between the welcoming of a rare bird to the museum and a reminder that Jenner has not yet told him of the result of his researches concerning the eels. What a mental picture it offers—Hunter discussing the sex problem in eels whilst Death is waiting at the door!

But though Hunter gave little heed to his illness his doctors insisted on his going for a complete rest to Bath. And as soon as he was settled there Jenner went over to see him—a journey of about 20 miles—and was alarmed by his altered appearance. He said nothing to Hunter, however, but he wrote to his London physician, giving it as his opinion that all the trouble was due to imperfect nourishment of the heart-muscle the result of arterial disease. And Jenner was right. After remaining three months at Bath, though by no means recovered, Hunter went back to London and set to work at his museum and his practice as if nothing had happened.

In 1785—that is, eight years after his last attack, and as many before his death—his disease caused him increasing distress, and especially so when he was angry; and as he grew older his temper did not improve. He would fly into a passion for very little cause, upon which an attack would come on, leaving him exhausted and miserable. It is a sad story—the man of giant mind such as the world rarely produces, worn out with incessant work and insufficient rest, torn to pieces by an ungovernable temper, and left, at shortening intervals, faint and helpless! It was all very well to call his complaint "flying gout"—whatever that may mean—it was something far more serious. Once more he visited Bath—but with little success. Indeed, he was in such a poor state of health that any other man in his position would have given up work altogether and retired into private life. Dante reminds us that there comes the time to each one of us when, like a mariner approaching the port, he should lower the sails and gather in the ropes.[1] But Hunter refused to see that this time had come to him. Though he knew that his days were uncertain, he felt that life without work would be intolerable. Above all things, his museum must be attended to. So he came back to London and (November, 1785) again put on harness.

Having thus brought you to look upon Hunter as a man bankrupt in bodily health, which, indeed, he was, I wish you to see, by contrast, that his mind was in full vigour, for it was at this time that he thought out and carried into execution a new operation for the cure of aneurysm—a piece of work which alone would have sufficed to place him for ever in a niche in the Temple of Fame. Time will not allow me to do more than merely refer to the great advance which this measure effected in the march of surgery. But I think it right to take this occasion of saying that its conception was the direct result of an experiment carried out on a living animal. And if no other piece of useful knowledge than this had ever been established by such method of experiment, it alone would abundantly justify the resort of the man of science to the use of what is commonly spoken of, and too often spitefully spoken of, as vivisection.

[1] . . . quella parte
Di mia età, dove ciascun dovrebbe
Calar le vele e raccoglier le sarte.

HIS ILL-HEALTH ACCOUNTED FOR.

One cannot deal satisfactorily with the question of Hunter's ill health unless one keeps in view the fact that, as the result of what must be called a "vivisection" experiment upon himself, he became the subject of constitutional syphilis. Though he had abundant opportunity of studying the progress and the effects of syphilis in patients coming to him for treatment after accidental infection, he desired to watch its course in a less impersonal manner. So he calmly dipped a lancet in venereal matter and inoculated himself with it. The experiment was a highly risky one, and it proved disastrous. Medical men and medical students have in all times been willing to offer themselves upon the altar of Science in the hope of solving some pathological problem, or of helping onward some scheme of treatment which might prove useful to their fellow creatures. Hunter's trial upon himself by no means stands alone.

Hunter was then in his fortieth year. He well knew the seriousness of the constitutional disease with which he had infected himself, and whilst watching its progress he found that he could check it by a certain line of treatment; but he writes that as soon as he found himself thus getting better he stopped the treatment, "for the intention was not to cure the disease completely at present." In due course his throat became ulcerated, and, having again adopted enough of the treatment to cause the ulcer to "skin over," he once more ceased it, as he did not then wish to destroy the poison, "but to observe what parts it would next affect." In three months copper-coloured blotches broke out on the skin, and ulceration once more attacked the throat. At a later date, when he thought that he had learnt all that was possible from his experiments, he set to work to cure himself. From the date of his inoculation to the completion of the treatment of the disease was about three years. He was apparently satisfied that the knowledge which he had thus obtained was sufficient reward for the inconveniences which he had undergone, but no medical man, looking back, would share with him that feeling of satisfaction. The price paid was far too heavy!

There can be little doubt that the progressive arterial degeneration of which he was the subject was greatly, if not altogether, due to that self-inflicted disease from the effects of which he never actually recovered. Not only did it render him feeble in body, but it also disturbed the balance of his mind and made him increasingly restless and irritable. Thus to think upon Hunter and his illness is to enable one to look upon his vast achievements with increased respect, and to regard his failings with unstinted sympathy. The longer one lives the more fully does one realise the truth of the French proverb which tells us that to understand all is to forgive all!

HUNTER, PASTEUR, AND LISTER.

Just now, when speaking of the friendship which existed between Hunter and Jenner, I referred to the delight with which Hunter would have looked upon the discovery of vaccination as an almost certain protection against small-pox, which his earlier death prevented him witnessing. And as the shade of Hunter wandered through the Elysian fields, he must have offered a warm welcome to another kindred spirit of the commonwealth of Science, and one of its brightest ornaments—Pasteur—who joined him after a hundred years. With what pleasure would these men discuss the many subjects which lay within the space in which the work of the physiologist overlapped that of the physicist! With what interest Hunter, one of the earliest friends of our Royal Veterinary College, would listen to Pasteur's account of the outbreak of the cattle-plague in France, of the pestilence amongst the silk-worms, and of the diseases of wine and of vinegar, all of which he had made to disappear by the touch of his magic wand; and with what approval would he follow Pasteur's account of the way in which he worked out his theories in connexion with that terrible disease, hydrophobia, and established their truth by experimentation on the animals themselves. What a group is it—Hunter, Jenner, and Pasteur—Jenner, Hunter's

friend in the flesh, and Pasteur in the spirit! And having thus spoken of the spiritual association of Hunter with Pasteur, it will be but a short step to connect Hunter's ideas with those of our Lister. For the range of his mental work in surgery (as was first pointed out to me by Mr. Dent) did actually touch that of Lister. Hunter is lecturing to his pupils upon hectic fever, which we now know to be the result of slow blood poisoning, and these are his words:—

> We have as yet, I am afraid, no cure for this. I believe the cure consists in the removal of the cause—namely, the local disease. Strengtheners and antiseptics are recommended. Strengtheners are proposed on account of the debility which has evidently taken place, and antiseptics, from the idea of absorbed pus giving the blood a tendency to putrefaction.

Here, then, is Hunter, a hundred years before Lister, talking about pus and putrefaction, and ascribing hectic fever to blood poisoning, just as Lister would do, and, moreover, saying that the disease should be treated by *antiseptics*—using Lister's favourite word. Hunter had thought it out for himself, turning the rough idea over in his philosophic mind until he had it ready for presentation to his students.

Look at him in Reynolds's magnificent picture. He is seated at a table with an open book beside him with drawings of skulls; there are also on the table an anatomical preparation and two closed volumes. But evidently his thought is not with *them*. His face shows that he is deep in meditation, and that his thought is far away—a hundred years forward, as likely as not. And if so, may it not be that at that very moment it is on the fringe of the work of Pasteur and Lister? At any rate, at one time or another he was within touch of Lister's immortal discovery. And he could have reached it without the help of a microscope. He might, like Pasteur and Lister, have put the fresh-boiled broth into a sterile vessel; and, having shielded it from dust, kept it sweet for weeks. Then, carrying out the same idea with a clean surgical wound and treating it with "antiseptics," he would there also have secured the wished-for result—its prompt healing. By the broth losing its clear appearance and its wholesome smell, as by the wound becoming swollen, offensive, and bathed in pus—the result of their having been infected—he would have been led to see and grasp the great truth, and then would have worked out the simple and beautiful antiseptic theory as we practise it to-day. But in a mind so crowded with ideas that it was, as he said, "like a beehive," it might not have taken much to turn aside that current of his thoughts. So that, if, by chance, a vision of the antiseptic method was occupying his thought when Reynolds caught that charming expression, a casual remark from the painter might easily have caused it to vanish into thin air.

The portrait was painted in May, 1785, three months after Hunter's fifty-seventh birthday, but it shows him looking a good deal older than that. Indeed, Everard Home says that, after his serious attack, "he gave the idea of having grown much older than could be accounted for from the number of years which had elapsed." The picture was hung in the exhibition of the Royal Academy of the following year, as the "Portrait of a Gentleman." But in the course of time, on account of the nature of the pigments used, it darkened and cracked and threatened to go to ruin. At last, when its condition seemed well-nigh hopeless, it was restored by an expert named Farrar, who in the course of his remarkably successful work, removed the paint from the old canvas and re-applied it upon a new one. The story of the painting of the picture is well known—Reynolds found Hunter a bad sitter. Probably Hunter did not like being under control, and became as difficult to pose as a restless boy at a photographer's. And so it came about that, though the picture was far advanced, the artist was not satisfied with it. One day however, Hunter fell into a waking dream as he sat, and "Reynolds, without a word, turned the canvas upside down, made a fresh sketch, with the head between the legs of the former figure," and obtained the result which you see. Much the same thing happened when Mrs. Siddons was sitting to Reynolds as the Tragic Muse. He had already sketched the head and face, and when he had turned away from the easel to mix some colour Mrs. Siddons changed her position in order to examine some picture hanging on the wall. Reynolds was so pleased with this natural pose that he begged her not to move, and he then painted her as she is seen in the glorious picture at Grosvenor House.

In a lecture on Sleep, Hunter says: "It is even possible to dream when awake; it is only necessary for the thinking power to take possession of the mind, and proceed with an action with which the present sensation has nothing to do. Now, whenever the body loses the consciousness of its own existence, it may be called a waking dream, and this is often the case when people are in deep thought." In this great picture Hunter is truly in a waking dream; and no one will venture to contest the point if I suggest that he is dreaming of putrefaction, of suppuration, and of the antiseptic system which was to come! The picture was presented to the College by Hunter's son in February, 1821, with the accompanying letter, addressed to the secretary:—

> SIR,—I have no doubt that the placing the portrait of my dear Father, the late John Hunter, Surgeon, in his Collection will meet with the wishes of the College of Surgeons, and that the gift of the above portrait will be acceptable to them. I do not think it can be more appropriately situated or more worthily disposed of. I therefore beg leave to make them the offer, and to add that I shall think myself honoured by their acceptance of it. I am, Sir, your obedient servant,
>
> JOHN BANKS HUNTER.

HUNTER AND ST. GEORGE'S HOSPITAL.

Hunter's colleagues at St. George's Hospital regarded him as a dreamer, and refused to see that his physiological studies could have any useful influence on the work of the practical surgeon; whilst Hunter, from his high standpoint, looked down upon them, and treated them with scant respect. Thus there was between him and them an entire absence of that good feeling which it should be the duty of every member of a hospital staff to cultivate, not only for his own happiness, but in the interests also of the hospital, the students, and even of the patients.

At the beginning of 1792, when Hawkins retired from the hospital, Hunter did his utmost to secure the election of Mrs. Hunter's brother, Everard Home, to the vacant post. Gunning and Walker, however, fought against him to get in Thomas Keate, who proved successful by 134 votes against 102 cast for Home. "This," says Ottley, "could scarcely fail to heighten existing animosities." Those two words, "existing animosities" give clear proof that Hunter greatly disliked Gunning and Walker, and I am going to assume that Hawkins (into whose vacancy at St. George's Hospital Keate had been elected) sided with them against Hunter.

Those of us who have had experience of the wretched system of election to a hospital staff by canvass and open vote can understand the bitterness caused by the Keate-Home contest—a bitterness made all the greater by the fact that it was somewhat of a family affair. As a result of his defeat, the iron entered deeply into Hunter's soul, and he turned round on his colleagues and declared that he would no longer agree to the division with them of the surgical pupils' fees, and that for the future he meant to keep for himself all moneys paid by students who entered under his name. He claimed that he did this in order to stimulate the other surgeons to do better for the students than they had done in the past, as, in his opinion, their neglect had brought disgrace upon the hospital. Gunning, Walker, and Keate replied; and, whilst admitting that more pupils entered under him than under them, claimed that they did so from a knowledge of the fact that he would be likely to find army appointments for them later on. And they set forth this unanswerable objection to his scheme, that if a pupil entered the hospital for the practice of one surgeon, he would be unable to watch the work of the other. To have agreed would have been to admit that they had actually been blameworthy, but they said that they would like to have the matter referred to the governors of the hospital. Hunter replied that he accepted their proposal and that he would meet it "fairly and very willingly." And before the meeting he sent a long printed document to each governor setting forth his case.

Hunter's scheme, which was conceived in a moment of wrath, was an impossible one, and the governors rightly gave their decision against it. And after this, in order to promote the smoother working of affairs at the hospital, a committee was appointed to draw up a code of regulations, amongst which was one forbidding the admission of pupils who had not already received some medical instruction. The effect of this would be to shut out young fellow-countrymen of Hunter who were attracted to the hospital by his reputation and success. Indeed, soon after the adoption of the code, two Scottish youths, without any knowledge of medical work, applied to Hunter to be received as his pupils at the hospital. He told them of the new law, but promised to try to obtain permission

for them at the meeting of the board which was to be held on Oct. 16th.

Hunter's position at that time was not a happy one. He had quarrelled with his colleagues and had twice been beaten by them in contests before the governors of the hospital, and he was now going to engage in another fight with them. Worse than all, he was the subject of a disease which gave him distress whenever he was excited or angry. Something told him that disaster was close at hand. As he was addressing the board at St. George's Hospital, a member of it, possibly Gunning, gave him a flat contradiction, on which he stopped speaking, hurried into an adjoining room, and fell lifeless in the arms of one of the physicians. A more dramatic ending to a strenuous life could not be imagined; and doubtless it called to the mind of many people the sudden heart failure of Chatham when he was addressing the House of Lords a few years before. But between Chatham's seizure and his death there was a delay of some weeks, whilst Hunter's death followed his attack with awful suddenness, as when the deafening thunder rolls upon the vivid lightning-flash.

If, as I claimed just now, Hunter was happy in the time of his birth, equally so was he in that of his death. He was then in his 65th year—an age at which he could not expect surgical practice to be increasing. His heart disease was steadily getting worse, and he himself more irritable; and though he was still full of energy, he was wanting in strength. His museum, daily growing larger, was making heavier demands upon his purse, and he had already spent so much upon it that he had but little private means. Surely Death came to him as a friend, as, indeed, he comes to most of us, if only he does not too long delay his coming.

On examination after death, it was found that his heart was wasted and small, its muscular tissue being "pale, and loose in its texture." The arteries of the brain and of other parts were thick and rigid. Commonly it happens that when a man's arteries are diseased, the muscular wall of the heart grows stronger and more massive in its effort to pump blood through the resisting tubes. But as Hunter had not been in the habit of making vigorous calls upon his heart by physical labour, his heart possessed no reserve of force, and readily gave up the unequal struggle. In an ordinarily healthy man, taking a fair amount of exercise, if the heart is called upon to do extra work—as in the case of valvular or arterial disease—its muscle becomes thick and strong, like that of the blacksmith's arm, but the heart of Hunter actually shrank from the task. And, just as Jenner had foretold 16 years before (after that visit of Hunter to Bath), the arteries supplying its muscular tissues were converted into bony canals. The aorta was dilated, and all the valves of the heart were out of working order.

There are few great men the details of whose life are so well known as are those of John Hunter's. His history is an open book which anyone may read. And though we fully recognise the grandeur of his intellect, we also see his weaknesses and admit his faults. No part of his industrious life is hidden behind a curtain which the historian feels it better to leave undrawn. We are told almost every detail; we know the full story of his death, and we have a sufficient account of the result of the examination of his body after death to enable us clearly to understand its cause. And as we learn of the gross changes which were revealed in his arteries, the opinion grows stronger that they were to a large extent the result of those disastrous experiments which he made upon himself a quarter of a century before.

When reading the biography of a man one expects to find that as he advances in years the little faults of his earlier days disappear, and that his views, his interests, and his hopes become wider—that, in short, his character gradually takes on the richer tints of autumn. But so it was not with Hunter. The sunshine and the rain which had come into his life had had no mellowing effect upon him; the jealousies and the bitterness of his nature steadily became more marked. And from what one knows of the results of syphilitic degeneration of the blood-vessels, one would probably be right in ascribing the early coming on in him of old age, and the growing irritability of his temper, to the effects of that disease with which he so unwisely inoculated himself. This great high-priest of Nature ought, of course, to have been buried in Westminster Abbey; but no invitation was forthcoming. In those days Theology looked askance upon Science. So the body was enclosed in a coffin and quietly placed in the vaults of that church which stands between the Strand and Trafalgar-square, for, as Hunter lived in Leicester-square, St. Martin's-in-the-Fields was his parish church. And there it would probably have been to-day, but that in the beginning of 1859 a member of our profession, Mr. Frank Buckland, saw a notice in the *Times* to the effect that by an Order in Council the vaults of St. Martin's Church were to be bricked up. Believing that the body of Hunter was lying there, he visited the church, and found the following entry in the sexton's register concerning Hunter's funeral arrangements under the date of October 22, 1793—

> John Hunter, Esq., Leicester Square, No. 3 Vault.
> £6. 10. No candles; ½ past 4.

Buckland made it his care to find the coffin. On the door of Vault No. 3 being opened he saw, by the help of a bull's-eye lantern, that the vast space was stacked with coffins from floor to ceiling, in "most admired disorder." Some were lying east and west: some north and south: others were placed crosswise, and some were standing up on end. Every one of these had to be taken out so that the name-plates might be read. This was a long and gruesome business, as the coffins were heavy of oak and lead, and he and the men helping him spent 15 days over it. At last, when upwards of 200 coffins had been fruitlessly examined, there were only five left at the end of the vault; and as he could read the names on the three uppermost of these, he feared that his chance of reaching the object of his search was small. However, on one of the last two he had the satisfaction of finding the inscription:—

> John Hunter, Esq.,
> Died 16 October
> 1793
> Aged 64 years.

And above these words were engraved the arms of the Hunter family.

Thereupon the Council of this College approached the authorities at Westminster, and asked that the body might be granted tardy burial in the Abbey. The Dean, Dr. Trench, worthily replied: "We shall be proud to be the guardians there of the ashes of so great a man." The coffin, therefore, was brought to the Abbey, and on March 28th, 1859, in the midst of a crowd of illustrious persons, all that was mortal of John Hunter was laid in the earth of the north aisle, not far from the last resting place of Isaac Newton. And as the coffin was being lowered into the vault the organ pealed forth that magnificent chorus from Handel's Funeral Anthem—

> "His body is buried in peace; but his name liveth evermore!"

To you, Mr. President, and to me, as to others who are devout worshippers at the shrine of Hunter, there may appear little or nothing in this address which is worthy of attention. Still, it may be hoped that in its course some stray thought may have been set free—as when a flint strikes steel—which, falling upon the mental tinder of some younger man, may cause the springing up in him of a flame to illuminate his studious path and help him onward. Indeed, without the hope of some such effect resulting from a Hunterian oration, the pious intention of John Hunter's executors might well be allowed to sink into oblivion. And even for those of us whose thoughts should be directed to the lowering of the sails of their bark, and the gathering in of the ropes, there will still remain a place in the mental vision for the picture of a raw Scottish lad coming up to a great city in which he had but one friend, and, possessing nothing beyond the rudiments of an education, seeking his way to a position in the world of science and of art such as it is the lot of few to attain, and without any indebtedness to the goddess Fortune, reaching it by dint of industry, vigour, and determination.

KING'S COLLEGE HOSPITAL.—The annual court of the corporation will be held at Portugal-street, Lincoln's Inn, London, W.C., on Thursday, Feb. 23rd, at 5 o'clock, when a report of the receipts and disbursements of the past year and of the general state of the hospital will be presented and other special business will be transacted.

ABSTRACT OF

The Lettsomian Lectures

ON

OPERATIONS FOR STONE IN THE MALE BLADDER.

Delivered before the Medical Society of London on Feb. 6th and 20th and March 6th, 1911,

BY WILLIAM F. HASLAM, M.B. BIRM., F.R.C.S. ENG.,

SURGEON TO THE BIRMINGHAM GENERAL HOSPITAL.

LECTURE I.

Delivered on Feb. 6th.

IT was known, said Mr. Haslam, that operations for the removal of vesical calculi had been performed for over 2000 years, and they were indebted to Celsus for a clear description of the method then adopted, which, with but little variation, kept the field for over 1500 years, and was at times practised as lately as 200 years ago. This operation seemed originally to have been regarded as beyond the scope of the practitioner of that lime, for they found that those who took the Hippocratic oath bound themselves not to perform this operation; the disciple, taking the oath, said, "I will not cut persons labouring under the stone, but will leave this to be done by men who are practitioners of this work." The operation was performed as follows. The fore- and middle fingers of the left hand were inserted, one after the other, into the anus, while the right hand was placed on the lower abdomen. The stone was then sought for by the fingers of the left hand in the rectum, assisted by those of the right hand, which pressed from above into the pelvis and kept the stone in front of the left fingers, so that these might press it from behind forwards against the neck of the bladder and perineum. Celsus was fully alive to the danger of dragging a large stone through a small incision, and he therefore recommended that "when the stone is too large to be extracted without laceration of the neck of the bladder it is to be broken." This was accomplished by fixing it with a hook and then striking it with a suitable iron instrument. With slight modifications the Celsian operation was in favour with some surgeons for over 200 years after 1524.

In spite of its many defects the Marian operation which followed found many ardent supporters; it was taken up and run as a special procedure by the Collots, the first of whom, Laurent Collot, was appointed to the position of court lithotomist in 1556 by Henry II. of France. The Collots were famous lithotomists for eight generations, but they kept their exact method of operating a secret. There were two statements as to how this became known—one that a book was found in the closet of the elder Collot, written in his old age, containing an authentic account of his operation; the other and more exciting version being that some surgeons bored through the ceiling of the operating theatre at La Charité in order to watch the great operator at work. They were rewarded for their trouble by seeing him do an operation which was only a slight modification of the Marian, which was well known to all those practising lithotomy. The operator was Jerome Collot who died in 1684. The Collots were strong supporters of dilatation; indeed, they considered that the whole secret in operating lay in the dexterous use of the dilators, and when the gorget was invented one of this family took upon himself to defend the dilator, which it was intended to replace. The gorget was not at first a cutting instrument, but merely a blunt wedge, a scoop of conical form, which, from the form of its beak, slipped easily along the groove of the staff, and by its wedge-like shape dilated the wound, and by the groove or hollow served as a conductor for the forceps. In studying the Marian operation it was noted that it was faultily conceived and so rough in its detail that the patient stood but a poor chance. The operators desired not to cut into the bladder, but to effect an entrance by dilatation. The incision was placed too far forwards and was in the perineum and did not extend into the ischio-rectal fossa, where there was more room for the passage of the stone. The urethra was opened through the bulbous portion, and as the surgeon was impressed by the idea that membranous parts should not be cut the membranous urethra, together with the prostate and neck of the bladder, were dilated, or rather torn open, by his instruments. The destruction of so great a length of the urethra—for by the time the operation was completed it amounted to this—led to the formation of a permanent fistula, if the patient escaped the ordeal with his life.

When Frère Jaques appeared in Paris in 1697 and exhibited to the profession his method of extracting the stone, there was a general feeling, not only among the profession, but among the public, that here, at any rate, was a method that, so far as extracting the stone was concerned, was less brutal and far quicker than the Marian operation, and that, whether the results were good or bad, the patient was spared the prolonged agonies of this procedure. The principle of the operation as performed by Jaques was to cut, and not to dilate, the deeper parts of the wound. He it was who showed that wounds of membranous parts were not mortal, and that Celsus was right when he said, "It is safer to cut than to dilate." By some he was regarded as one sent from Heaven to alleviate the sufferings of his fellow creatures. By his enemies—and he naturally had them—he was spoken of in different terms. He travelled over the provinces of France, assuming the name and character of a hermit or religious man, and he cut those who came to him with stone. He appeared to have extracted certificates from the friends of those on whom he operated, who were astonished at the dexterity with which he extracted the stone. He, however, had the sense not to wait until the time of cure arrived, but at once passed on to another district, leaving his patients to their fate, and many of them died. Frère Jaques's operation was done as follows:—

Having introduced a staff into the bladder, without a groove, he took a long knife with which he made an incision by the side of the left ischium, and cutting obliquely upwards he divided all the parts between the tuber ischii and the staff, which he allowed to remain in the bladder; he cut so freely upon the staff as to admit the finger into the bladder; along the finger he introduced an instrument which he called his conductor, as if to dilate the wound, and along the conductor he passed the forceps. Having introduced the forceps he withdrew the conductor; upon finding the stone he withdrew the staff also, and having seized the stone he drew it out.

Jaques operated in public at the hospitals, and so great was the desire of all to see him that sentries had to be placed at the gates to keep the mob back. Men from all parts came to see him operate, and they were greatly impressed with his boldness and rapidity, for it is stated that on one occasion he cut nine patients in three-quarters of an hour—a very remarkable performance when compared with the time taken in operating by the Marian. For a time all went well, and his enemies seemed unable to attack him with any success; but before long his patients began to die, both in the Hôtel-Dieu and in La Charité, in such numbers that, disappointed and broken by persecutions, he left Paris and travelled first in the provinces and then in Holland and Germany, where he was well received by those who saw him operate.

Observers of Jaques soon discovered that his operation was a great advance on the Marian, and Marechal in Paris, Raw in Holland, and Cheselden in England adopted it and put it to the test. There was one also who was deeply impressed by this procedure, and that was M. Fagon, who had shown much kindness to Jaques on his visit to Versailles, and had remained true to him even after his misfortunes in Paris. Fagon was himself afflicted with stone, and, in spite of the fact that all the best surgeons in France and Holland performed this new operation, resolved to place himself in Jaques's hands. He therefore, in the year 1700, called him to Versailles, lodged him in his own house, and persuaded him to go through a complete course of studies and dissections. This he did under the guidance of Fagon; then a series of operations were performed on dead bodies, and the parts afterwards dissected by Du Verney, the anatomist, who with Felix, the king's body surgeon, and Fagon, his future patient, discussed the various points of the operation with Jaques. As the result of these experiments he formulated his second operation, giving up the use of the round staff and using a grooved one instead. The incision

was now no longer made with the long dagger-shaped knife, but with an ordinary scalpel, the position of the incision being similar to that of his first operation. The deeper incision was, however, quite different, for, instead of passing the knife through the cellular tissue that surrounds the rectum or seeking the body of the bladder, the neck of the bladder and the prostate were cut by passing the knife along the groove in the staff, and thus incising the prostate. The rectum and pudic artery were out of danger, as the knife was not plunged blindly among the parts. Jaques now put his improved operation to the test, and cut 38 patients in Versailles without losing one. He fully recognised the help that had been given him by this staunch supporter, and he saw the value of a knowledge of the anatomy of the parts, of the advantage of the grooved staff, and of the method of making the deep incision by passing the knife along the groove. A critical time now came in Jaques's career, for not only was M. Fagon afflicted with stone but the Mareschal de Lorges was also the subject of stone. M. Fagon, who had been so largely instrumental in perfecting the operation, had actually been sounded by Jaques, when he was prevailed upon by his friends to place himself in the hands of Marechal, who had learnt to perform Jaques's operation. This he did, and was cut by him with complete success. The Mareschal de Lorges took every precaution to ensure success in his own case at the hands of Jaques. He collected 22 patients with stone who were cut by Jaques with perfect success. He then submitted to the operation himself, and died in tortures the next day. This was a fatal blow to the reputation of Jaques, and he left Paris, never to return. He travelled over the continent of Europe, and operated with great success. At The Hague the magistrates had his portrait engraved and presented him with a set of golden sounds. In Amsterdam, by the permission of the magistrates, he cut patients in the hospitals. In 1707 he was again at Versailles and visited his old friend M. Fagon. He went to Vienna, Venice, Padua, and Rome, and finally died at his native village in 1715.

THE SPHYGMOMANOMETER AND THE SPHYGMOGRAPH

IN RELATION TO THE MEASUREMENT OF ARTERIAL BLOOD PRESSURES.[1]

BY C. O. HAWTHORNE, M.D. GLASG.,
HONORARY PRESIDENT OF THE GLASGOW SOUTHERN MEDICAL SOCIETY 1909–10).

IT is due, I cordially recognise, to your goodwill that I enjoy the present opportunity of speaking to you on the relative values and meanings of two comparatively modern methods of observing and recording certain features of the arterial pulse; and although in doing so I shall have, I fear, to recite to you a number of propositions with which you are already abundantly familiar, I hope to be able to convince you that at least some of these propositions demand interpretations of a somewhat different order from those which are commonly placed to their credit.

The arterial pulse has, of course, always been an object of interest and of importance to practitioners of the art of medicine, and the several varieties of its rate, of its rhythm, and of the characters of the individual beats were recognised and expounded at a very early date in medical history. I am not sure whether anyone at the present day is prepared confidently to identify each one of the 27 forms of pulse described by Galen, but I am quite sure that no modern physician proposes to enlarge that classification; and a good deal might be said for the contention that in practical clinical work the several characters of the pulse mean to-day very much what they meant to the physicians who first described them many centuries ago. But the modern spirit, inspired by science, with its universal passion for measurement, has touched the pulse as it has touched many other commonplace objects and movements. Hence has arisen the desire, in the study and examination of the pulse, to substitute for the immediate sense-perceptions and personal judgments of the physician methods carrying a capacity for numerical values and graphic record—methods, that is to say, which may be relied on to yield results unaffected by the personal bias or other defects of the individual observer. The ambition, in short, of instrumental methods in the study of the pulse is to describe the pulse in terms of exact measurement and to display its characters in graphic or pictorial record.

It may, perhaps, be said that this is a subject of but limited interest, seeing that the conditions under which medical practice is for the most part conducted are not favourable to the use of instruments of precision in ordinary pulse examinations. Such a proposition might easily be contested, but, allowing it to pass for the moment, it still remains true that instrumental methods *are* used in the examination of the pulse, and that records so obtained, and important clinical inferences based on them, occupy a somewhat prominent position in modern medical literature. Consequently, whether we like it or not, we are, individually, face to face with the necessity of endeavouring to form an opinion of the value these records possess and of the meanings they severally convey.

Now it will be allowed that one quality of the arterial pulse, which in modern medicine is being specially subjected to instrumental investigation and record, is the quality known as blood pressure. And manifestly, before we can examine or criticise these investigations and records, we must be familiar with the facts which they portray, and we must accept and understand the term "blood pressure" in one and the same sense. We must, in short, obey the elementary mandate which directs us to precede discussion by a definition of the terms to be employed.

Fortunately there is one part of the circulation—namely, that conducted in the capillaries—where there is no room for difference of opinion or of statement in the definition of the term "blood pressure." Through the capillaries, as we know, the blood flows in a steady and even current and at a constant and uniform pressure—at a pressure sufficient to move the blood along the vessels, sufficient to keep the capillaries distended, sufficient to cause certain elements of the blood to pass through the capillary walls, but, happily, at a pressure less than sufficient to produce capillary rupture. And this intracapillary blood pressure is the essential blood pressure of the body, as upon it the maintenance of the nutritive and metabolic activities of the tissues directly depends; and all other blood pressures, whatever they be, exist with this one aim and object—namely, to provide and continue a constant, uniform, and gentle blood pressure in the capillaries.

But to institute and maintain a flow of fluid or circulation in a system of closed tubes it is necessary to secure at some point in the system a rhythmical disturbance of pressures. And this, we recognise, is effected in the human body by the action of the heart, each systole of which causes a rise of pressure within its cavities, the resulting outflow of blood being guided in the desired direction by means of the cardiac valves; whilst at the following diastole there is a fall of the intracardiac pressure, and a consequent flow of blood into the cardiac chambers. Thus intracardiac blood pressure is not, as is intracapillary blood pressure, a constant and uniform level, but is, on the contrary, a repeated and rapid movement between wide extremes. Hence arises a necessity for the provision in the circulatory apparatus of some mechanism by which the wide variations of blood pressure due to the alternate systole and diastole of the heart shall be converted into the uniform and gentle pressure necessary to, and characteristic of, the capillary circulation.

It is to meet this demand that the arteries or tubes which intervene between the heart and the capillaries are provided with highly elastic walls. Into these elastic vessels at each systole of the left ventricle there is driven forcibly a parcel of blood, and while part of the force is occupied in moving the blood along the vessels, part is spent in distending or stretching the arterial walls. At the cessation of the ventricular systole these elastic walls recoil and thus cause a further displacement of blood towards and through the capillaries. There is, therefore, in the capillaries pressure and blood flow during cardiac systole, and pressure and blood flow in the intervals between successive cardiac systoles, this latter result being due to the elastic recoil of the arteries. In this way there is secured that uniform and constant intracapillary blood pressure which the physical and biological conditions of the capillary circulation

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demand; while, at the same time, the anatomical and physiological distance of the capillaries from the heart, the resistance offered to the circulation by the arterial walls, and the elastic and therefore force-absorbing quality of these walls combine to reduce the violent pressures caused by the cardiac contractions to a level compatible with capillary integrity.

But observe the unfortunate position of the arteries in this scheme of things, for their lot is, indeed, a hard one. With each cardiac systole a blow and a strain is inflicted on the arterial wall. Recovering from this, the artery recoils or moves towards a position of rest, but such a position it never reaches, for before it does so it is made to stagger under the impact of a second blow. Thus always the arterial wall is in a state of strain or tension—the tension rises with the cardiac systole and falls with the cardiac diastole, but it never wholly disappears; which is only another way of saying that always within the arteries there is a positive blood pressure—the pressure rises with the cardiac systole and falls with the cardiac diastole, but it never wholly disappears. And the arteries suffer this strain, and these repeated bangings and buffetings, not for their own pleasure and enjoyment, but in order that the capillary circulation may be conducted in calm and quietude and peace—in order that the tissues, so far at least as the capillary circulation is concerned, may dwell at ease in a land "in which it seemeth always afternoon." Or, to change the figure, it is the fate of the arteries to "wither" in order that the capillaries may be "more and more."

In any discussion on the subject of blood pressure it is only seemly and just that at least a passing word of recognition should be offered to the position, the function, and the fate of the arteries. Inelegant, unæsthetic structures, mere pipes or conduits for the transmission of fluid, the arteries may readily, at least by a superficial observer, be numbered among what the Apostle Paul calls "our uncomely parts," but when one recognises how persistently they suffer "the slings and arrows of outrageous fortune," and how uncomplainingly they discharge their altruistic functions, we may surely go further and join with the Apostle in his conclusion:

> And those members of the body which we think to be less honourable, upon these we bestow more abundant honour; and our uncomely parts have more abundant comeliness.

This, however, is but a passing allusion to what may be called the poetical or philosophical relations of blood pressure, and with these aspects of the subject, I recognise, we have at the moment no direct concern.

To revert, therefore, to a more practical note, it appears that while in the capillaries blood pressure is a uniform and constant measure, and in the heart a series of rapidly repeated excursions between a very high level and a very low, indeed a minus, quantity, blood pressure in the arteries is a continuous force, though the amount or degree of this force rises and falls with the cardiac systole and diastole respectively, and the height of the maximum and the extent of the oscillation are greater as the artery is nearer the heart, upon the action of which both maximum of pressure and extent of oscillation directly depend.

By this brief sketch, then, we may be reminded that the pressure of blood in different parts of the circulatory mechanism not only varies in degree but also in quality or kind—there is an intracardiac blood pressure, an arterial blood pressure, a capillary blood pressure, and a venous blood pressure; and each of these has both its own measure and its own character. Rather, therefore, than blood pressure there are blood pressures; and hence, when a particular figure is presented to us as a measure or index of blood pressure, it is of the greatest importance in the interests of clear thinking that we shall have a lively appreciation, both of the point or level of the circulatory mechanism at which such measurement has been taken, and also of the exact period of the circulatory rhythm in which it has been calculated.

How, now, do these considerations apply to the use of the apparatus, the sphygmomanometer, which is being largely employed at the present day to estimate what is called, usually without phrase and without qualification, *the* blood pressure? In the most common type of sphygmomanometer a broad leather armlet is strapped firmly round the upper arm; lining this armlet is an elastic bag which communicates through an indiarubber tube with the well of a mercurial manometer, so that at any given moment the pressure at all points of the system is identical and the degree of the pressure is indicated by the height to which the mercury rises on the manometer scale. After the armlet has been fixed in position the pressure in the manometer system is gradually increased by pumping in air by means of a valved ball or pump, and the increase is pushed until the radial pulse just disappears; and at this point the level of the mercury is read and is declared to be the blood pressure, the assumption being that when the pressure in the sphygmomanometer is sufficient to neutralise or overcome the pulsations in the brachial artery (as shown by the cessation of the pulse at the wrist) the pressure on the external surface of the artery must be equal to the pressure on its internal surface, and as this external pressure is indicated by the level of the mercury the figure which this reaches is announced as the index or measure of the blood pressure. Perhaps it is allowed, more or less generally, that considered as an absolute record this figure is qualified to an uncertain extent by the resistance of the soft tissues of the upper arm and also by the resistance offered by the arterial wall. But with this aspect of the question we are not now concerned. In other words, I propose to accept in the meantime, and without any discussion of the disturbing elements just mentioned, the figure recorded by the sphygmomanometer and usually announced as the measure of the blood pressure; and upon this announcement I have one or two comments to make.

First, it is evident that the figure obtained from the sphygmomanometer is not the measure of anything which can be called the general, mean, or average blood pressure, but is, on the contrary, merely the measure of a particular or individual pressure obtained from the brachial artery during a certain phase of the circulatory movement. Secondly, it is also evident that the figure recorded by the sphygmomanometer is not the measure of anything which can be called the mean or average pressure of the arterial cycle, for the record is taken only at a single point in this cycle. And as the point selected is the one at which the distending force within the artery is just overcome, it is manifest that the sphygmomanometric figure is the measure of this distending force. But the distending force within the brachial artery is most certainly the pressure of the blood as this is due to the systole of the left ventricle. Therefore the figure yielded by the sphygmomanometer is a measure of the force of the left ventricle as this reaches and influences the brachial artery; or, in more detail, it is a measure of the vigour with which the left ventricle, through the column of the blood and for an undefined period of time, acts as a distending or expanding force within the brachial artery.

It is of some importance carefully to note this definition, as the pressure of blood within the brachial (or any other) artery is, if the complete arterial cycle is contemplated, caused, or at least controlled, by two different factors; and while one of these is the systole of the left ventricle, the other is the degree of resistance offered to the circulation, as this resistance is determined by a contracted or relaxed condition of the vessels on the remote or peripheral side of the artery. But, as in the application of the sphygmomanometer, and at the moment the record is taken, the peripheral circulation in the upper limb is, by the strangling action of the sphygmomanometer armlet, for the time being practically put out of existence, it is obvious that the sphygmomanometer cannot measure the contribution which this factor—that is, the peripheral resistance—makes to the level or other character of the blood pressure. There, therefore, remains for measurement only the contribution made by the left ventricle, and hence we arrive again at the conclusion that the figure announced by the sphygmomanometer is, and only is, a measurement of the height to which, for an undefined period of time, the blood pressure rises under the stroke or systole of the left ventricle.

I have here a record which I submit as a demonstration of the accuracy of this conclusion. The patient from whom this tracing (Fig. 1) is taken has, in the language of the sphygmomanometer, a blood pressure of 175; this, in other words, is the figure at which the mercury stands when the pressure in the sphygmomanometer is just sufficient to neutralise the arterial pulsation in the upper limb. When a pulse tracing (Fig. 1) is taken it is seen that the pulse has the characteristic features of the pulsus alternans, a strong and relatively weak beat following one another alternately.

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I have here a record which I submit as a demonstration of the accuracy of this conclusion. The patient from whom this tracing (Fig. 1) is taken has, in the language of the sphygmomanometer, a blood pressure of 175; this, in other words, is the figure at which the mercury stands when the pressure in the sphygmomanometer is just sufficient to neutralise the arterial pulsation in the upper limb. When a pulse tracing (Fig. 1) is taken it is seen that the pulse has the characteristic features of the pulsus alternans, a strong and relatively weak beat following one another alternately.

If the sphygmomanometer and the sphygmograph are applied at the same time, and the pressure in the former is raised so that the mercury touches the level 175 on the scale, the excursion of the sphygmographic needle ceases. But if the pressure is lowered, say, to 160, certain beats of the pulse come through, and it is obvious that these are the alternate stronger beats; the same thing is seen when the pressure is further lowered, say, to 150, and it is not until it is depressed to 140 that faint indications of the alternate weaker beats of the heart reach the radial artery and appear as feeble waves in the pulse tracing.

According, therefore, to the doctrine of the sphygmomanometer, this patient at one moment has a blood pressure of 175 and at the immediately following moment a blood pressure of about 145. But the conditions attending the two observations remain unchanged with one exception, and that exception is the degree of force of the cardiac systole. It is therefore a difference in the vigour of the alternating systoles which explains the difference in the two sphygmomanometric readings, and thus the facts displayed in Fig. 1 may be quoted in support of the conclusion that what the sphygmomanometer measures is the force of the cardiac systole as this arrives at the brachial artery. Such, then, and subject to the qualifications to which I have already alluded, is the contribution offered by the sphygmomanometer to the measure or estimate of the pressure of blood within the arterial channels.

We have now to consider what information relative to blood pressure is professed or offered by the sphygmograph. With the use of this instrument as an apparatus for recording the rate of the pulse, the rhythm of the pulse, and the presence or absence of pulse irregularities we are not now concerned. Our business is solely with the characters of the individual sphygmographic wave in so far as these offer, or profess to offer, information as to the height or level of blood pressure. It may perhaps be said that no one uses, or thinks of using, the sphygmograph for the purpose of measuring blood pressure. But, with great respect, I submit that this statement can only be accepted subject to considerable qualification. No doubt it is true that no one uses the sphygmograph with a view to make an absolute measurement of blood pressure—a measurement, that is, in exact numerical terms. But surely it is also true that we are repeatedly presented with sphygmograms which are announced as indicating high blood pressure on the one hand or low blood pressure on the other. And the terms "high" and "low" in such a context are manifestly terms of measurement—of comparative, not of absolute measurement—but, all the same, terms of measurement. Therefore it is fair to say that the sphygmograph is claimed as an instrument which possesses the ability to proclaim, at least in comparative terms, the height or level of blood pressure; and, indeed, diagrams such as those seen in Fig. 2 are, with their corresponding legends, familiar objects in every text-book.

What, then, are the features of the sphygmographic wave which present themselves as guides in the endeavour to estimate the degree of blood pressure? These characters are found, I venture to remind you, mainly on the descending line of the wave. When this line is sloping or oblique, with a second or tidal wave, at, or nearly at, the same horizontal level as the primary or percussion wave, and with a third or dicrotic wave relatively inconspicuous and high up on the descending stroke, the message of the sphygmograph is read as a message of "high" blood pressure (Fig. 2, A); while, on the contrary, when the wave falls suddenly and promptly, with a tidal wave either absent (Fig. 2, C), or, if present, well below the horizontal level of the primary wave (Fig. 2, B) and a dicrotic wave well marked and low down on the descending line, the sphygmographic reading is recorded as one of "low" blood pressure. These are the facts upon which, we are taught, we may rely in an endeavour, by means of the sphygmograph, to determine whether the blood pressure or arterial tension is "high" on the one hand or "low" on the other.

Such, then, are the current doctrines of the sphygmomanometer and the sphygmograph relative to the measurement of blood pressure, and it is manifest, if these doctrines are valid, that the two instruments in any given instance will deliver an identical message—they will speak in equal tones and will prophesy with a unanimous voice. Or, in practical phrase, when in any patient the sphygmomanometer announces a high record (say 130 or upwards) the sphygmograph will produce a picture of the type seen in Fig. 2, A, while when the sphygmomanometer intimates a low blood pressure (say 100 or less) the sphygmographic tracing will follow the pattern of Fig. 2, B or C. And there are many cases in which this anticipated harmony or correspondence between the deliverances of the sphygmomanometer and those of the sphygmograph is fully and exactly realised. Thus in Fig. 3 is shown a group of pulse-tracings each one of which, in the language of the sphygmograph, is a proclamation of "high" blood pressure—the descending line of the sphygmographic wave is oblique or sloping, the tidal wave is at, or nearly at, the same horizontal level as the percussion wave, and the dicrotic wave is slight and is high up on the descending line. And with equal distinctness the sphygmomanometer, in each case, announces that the blood pressure is "high"; in the first case the record is 210, in the second 210, in the third 200, and in the fourth 165, all of these numbers being far above the normal or average sphygmomanometric level. Again, in Fig. 4 is seen a group of pulse-tracings every one of which, described in sphygmographic terms, is a distinct intimation that the blood pressure is "low"—the pulse wave falls more or less suddenly, the tidal wave is absent, and the dicrotic wave is relatively conspicuous and is low down on the descending line. And the sphygmomanometer, in each instance, again speaks to the same effect, for the figures 95, 98, 98, and 105, as marked on the tracings, are as sphygmomanometric records distinctly below the usual or average reading.

Therefore, so long as we confine our observations to such series of cases as are represented in Figs. 3 and 4, we may entertain and cherish the comfortable conviction that the sphygmomanometer and the sphygmograph in their deliverances on the subject of blood pressure confirm and support one another—that they announce similar or corresponding findings, the one in terms of exact measurement, the other in the form of pictorial facts on which a comparative estimate may be securely rested.

But I have now to ask your attention to some records which seriously disturb this apparent agreement between the sphygmomanometer and the sphygmograph, which, indeed, completely and absolutely explode and destroy it. The first evidence to this end I show in Fig. 5. Here is a group of pulse-tracings taken from different patients and presenting widely different characters. Especially do they differ among themselves in those features which are presented as pictorial guides to the estimation of the level of the blood pressure. In the earlier members of the series it is written in unmistakeable characters that the blood pressure is "high," while in the later tracings the facts, with equal distinctness, announce that the blood pressure is "low." Yet, and this is the startling fact, the sphygmomanometer proclaims that in each of these cases the blood pressure has one and the same level—namely, 175 mm. of mercury. According to the one instrument, therefore, all of these patients have one and the same blood pressure; according to the other the blood pressures in the several cases are widely different.

Clearly, then, we can no longer say that the sphygmomanometer and the sphygmograph speak in equal tones and deliver an identical message, as with one and the same announcement from the sphygmomanometer there may, we see, exist sphygmographic pictures which, as displays of the level of the blood pressure, vary in their characters and meanings between the widest possible extremes. But this is not all. Not only with a uniform sphygmomanometric reading may the pulse pictures vary as just described, but the records of the two instruments may appear in direct and mutual antagonism. And the contradiction may, as one may say, be in both directions. In a given case, for example, the sphygmomanometer may intimate a "high" blood pressure and the sphygmograph may protest that the pressure is "low"; or, on the other hand, the sphygmomanometer may indicate that the pressure is "low," while the sphygmograph writes distinctly that the pressure is "high." Here is the demonstration. Fig. 6 shows a group of pulse-tracings which in sphygmographic language announce more or less distinctly the existence of "high" blood pressure. Yet in every instance the measurement effected by the sphygmomanometer is a measurement of "low" pressure, the several numbers running 75, 80, 86, 98, 100, and every one of these being distinctly below anything which can be called the normal or average sphygmomanometric level.

FIG. 1.

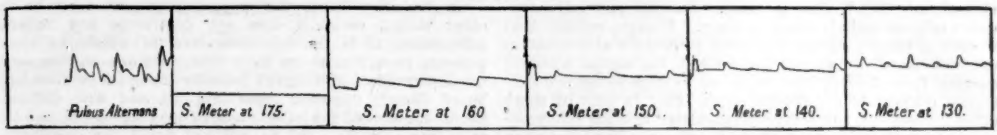


Fig. 1.—Sphygmogram (pulsus alternans) showing the effect on the radial pulse of different degrees of pressure applied to the brachial artery by the sphygmomanometer. With the pressure at 175 mm. Hg. all pulsations cease; at 160 and 150 only the alternate and stronger cardiac systoles reach the radial artery; and it is not until the pressure is reduced to 140 that the alternate weaker beats affect the tracing.

FIG. 2.

FIG. 3.

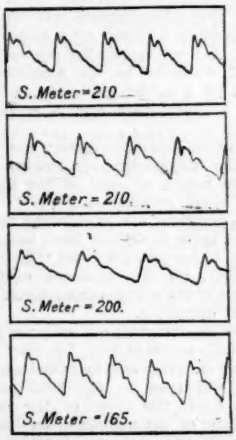


FIG. 4.

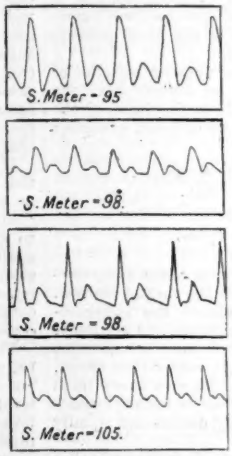


Fig. 2.—A, Pulse of high arterial pressure. B, Pulse of low arterial pressure showing slight tidal wave. C, Pulse of low arterial pressure without tidal wave. *s*, Tidal wave; *d*, dicrotic wave; *n*, pre-dicrotic or aortic notch. (Copied from Dr. Jas. MacKenzie's book on "The Pulse.")

Fig. 3.—Sphygmograms indicative of "high" arterial pressure associated in each case with a "high" sphygmomanometer record.

Fig. 4.—Sphygmograms indicative of "low" arterial pressure associated in each case with a "low" sphygmomanometer record.

FIG. 5.

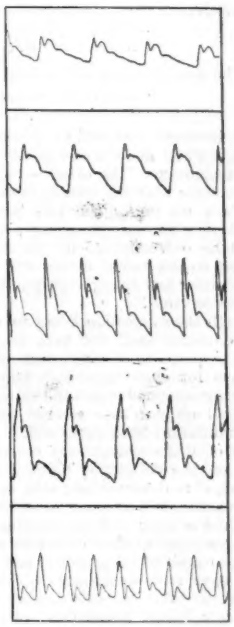


Fig. 5.—Sphygmograms of different and even of opposite character with, in all, one and the same sphygmomanometer record—viz., 175 mm. Hg.

FIG. 6.

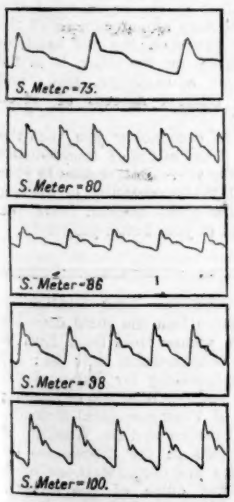


FIG. 7.

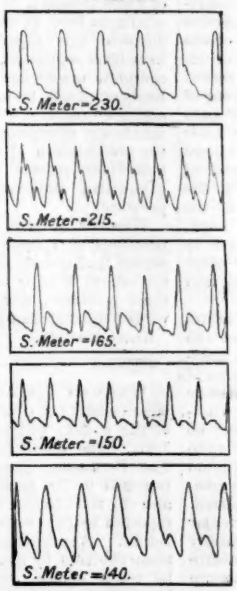


Fig. 6.—Sphygmograms indicative of "high" blood pressure associated in each case with a "low" sphygmomanometer record.

Fig. 7.—Sphygmograms indicative of "low" blood-pressure associated in each case with a "high" sphygmomanometer record.

FIG. 8.

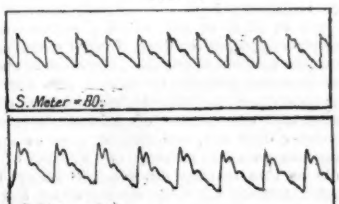


Fig. 8.—Sphygmograms of similar or identical patter with very different (80 in the one case, 210 in the other) sphygmomanometer records.

Again, in Fig. 7 is another group of pulse-tracings, each one of which translated into sphygmographic terms carries a measure of "low" blood pressure. But the sphygmomanometer tells an entirely different story. It says, indeed, that in each of these patients the blood pressure is above, and in most of them far above, the normal, the actual numbers ranging from 230 to 140, while an average sphygmomanometric reading is somewhere about 120. In both of these groups, therefore, the sphygmomanometer and the sphygmograph plainly do not speak with corresponding, but with contradictory, voices, and the anticipated harmony has failed to arrive. Hence, to present the position in a sentence, we find that while in certain instances the sphygmomanometer and the sphygmograph are in apparent agreement, there are other instances in which they do not agree, and in which, indeed, the messages delivered by the two instruments relative to the level or height of the blood pressure are directly and mutually contradictory.

In these circumstances what is the unfortunate clinical instrumentalist to do? Possibly, as he contemplates the sphygmomanometer and sphygmograph in the light of the records here exhibited his feelings may be disposed to express themselves in the well-known lines:—

> "How happy could I be with either,
> Were t'other dear charmer away,"

and he may perhaps be impelled to the conclusion—

> "But as you both tease me together,
> To neither a word will I say."

If, however, he must, or thinks he must, make a choice—selecting one method and ignoring, as is the current fashion, the teaching of the other—shall he choose the sphygmomanometer with its attractive air of precision and accuracy, or shall he prefer the less precise but more picturesque displays of the sphygmograph; or, again, rather than either, shall he determine to fix his faith on his own trusty three fingers on the radial artery and brush aside both sphygmomanometer and sphygmograph as equally useless and equally untrustworthy?

Well, the suggestion I beg to offer in this dilemma is that our clinician shall not take any one of the three courses thus proposed to him, but that, on the contrary, while striving always for the "educated finger" he shall use *both* the sphygmomanometer and the sphygmograph, but in doing so he shall apply to their records canons of interpretation somewhat different from those which are generally current. For each of these instruments certainly gives us some information on the subject of blood pressure. The sphygmomanometer, if it does nothing else, at least tells us what amount of pressure is necessary to overcome the pulsations of the brachial artery; and no one questions that the ascent of the sphygmographic wave coincides with, and is due to, a rise of intra-arterial blood pressure, and similarly, that a descent of the wave represents, and is dependent on, a fall of such pressure. But as, *when tested by the claims usually made on their behalf*, these two instruments, though sometimes in apparent agreement, are often found in a state of open, conspicuous, and flagrant contradiction, surely the reasonable and common-sense conclusion is that it is the "claims" and not the instrument which are at fault. And the solution of the mystery is to be found, I suggest, in a recognition of the fact that blood pressure, as any other pressure, has other qualities than mere level or height, and that one of these is continuance or duration.

The measurement of the height to which blood pressure rises is one question, the measure of the endurance of the preasure *in time* is another and an entirely different question. Relatively high or relatively low and independent of the fact of high or low, blood pressure may manifestly be either prolonged and abiding, or brief and evanescent; whatever be the maximum attained, the decline therefrom may be either slow and gradual, or sudden and abrupt. Now upon this second question—namely, the duration of the maximum pressure and the manner of pressure decline, the sphygmomanometer does not, and cannot, give us any information. It may announce the measure of the force of the ventricular systole as this reaches the brachial artery, but it certainly cannot announce the time during which the blood pressure so caused continues, for, given a certain maximum of pressure within the brachial artery, the sphygmomanometric pressure necessary to neutralise or overcome this will be one and the same whether such maximum persists for a relatively prolonged period or whether, on the contrary, its duration is but for a moment.

On the other hand, the sphygmograph, whatever be its other values, certainly does not contribute any reliable information as to the maximum level to which the blood pressure rises, for, as we have seen, with one and the same maximum record in different patients the pulse pictures may be of directly opposing types (Fig. 5), and with different maximum records the pulse pictures may be of one and the same type (Fig. 3). But as, without doubt, the descending line of the sphygmographic wave corresponds more or less closely to the movement of pressure decline within the artery, we must surely find on contemplation of this line some information as to the manner of such decline. In other words, if the maximum pressure, whatever it be, is relatively prolonged, and the decline therefrom is slow and gradual, the sphygmogram will announce these facts in a sustained wave followed by a sloping or oblique downstroke (Fig. 2, A); while, on the contrary, when the maximum pressure, whatever be its absolute reading, is promptly followed by a sudden fall, the sphygmographic wave will present a sharp apex and a sudden and abrupt descent (Fig. 2, B C).

If we admit these conclusions, and if, further, we recognise that as the sphygmographic picture conveys no information as to the height or level of the blood pressure, the terms "high" blood pressure and "low" blood pressure applied to sphygmograms are misleading and inexact, and if, once again, we agree to replace these terms by the phrases "well-sustained blood pressure" and "ill-sustained blood pressure" respectively, all the apparent contradictions and mutual confusions of the sphygmomanometer and the sphygmograph cease and disappear.

The two instruments not only are not, but cannot possibly be, mutually contradictory, for they speak not of the same but of two different and independent things—the one of the level to which for an undefined period of time the blood pressure rises, the other of the relative duration of the pressure and of the manner of its decline. Each has its own value, each has its own function, and the information obtained from the one supplements that conveyed by the other; but the activities of these instruments are displayed, not on the same but on different planes, and therefore cannot possibly come into mutual conflict and collision.

It must be added that even when sphygmomanometer and sphygmograph have both been employed, there still exists a deficiency in our instrumental appreciation of the qualities of blood pressure, as neither of these instruments records the minimum level to which the intra-arterial pressure falls. To measure this so-called diastolic pressure many methods have been suggested, but none of them can be accepted with complete confidence, and the absence of this measurement lends emphasis to what is implied in the argument of this address—namely, that the customary announcement of the maximum sphygmomanometric figure on the one hand, or the presentation of a sphygmogram on the other, is in the individual patient anything but a complete, final, and exhaustive statement on the clinical aspects of blood pressure.

Whether I have succeeded in convincing you that the positions as I have presented them are well founded and secure I, of course, may not dare to say. But, thanks to your invitation, I have at least had the opportunity of stating these positions, and I now, with great respect, leave the verdict upon them to the decision of your better judgment.

Harley-street, W.

GERMAN UROLOGICAL SOCIETY.—The Deutsche Gesellschaft für Urologie announces that the third congress of the society will take place in Vienna from Sept. 11th to 13th. The chief subjects for consideration will be: (1) The Permanent Results of Nephrectomy for Tuberculosis, reported by Dr. Israel of Berlin and Dr. Wildbolz of Zürich; and (2) the Clinical Importance of Urethroscopical Methods, reported by Dr. Oberlaender of Dresden and Dr. Wossidlo of Berlin. Applications to take part in the discussions on these subjects by means of papers and demonstrations must be made before June 1st to the office of the society, Maria Theresienstrasse, 3, Wien, IX. Dr. O. Zuckerkandl is the president and Dr. Kapsammer is the secretary of the society.

EYE-STRAIN IN RELATION TO THE GENERAL HEALTH.

BY JAMES HINSHELWOOD, M.A., M.D. GLASG.,
SURGEON TO GLASGOW EYE INFIRMARY, AND LECTURER ON OPHTHALMOLOGY IN THE GLASGOW WESTERN MEDICAL SCHOOL.

EVERYTHING appertaining to the well-being of the patients under his care is of importance to the general practitioner. With regard to eye symptoms, however, he is too apt to regard these as of importance only to the specialist and therefore outside of his sphere of interest. I wish, therefore, to direct attention to the close relationship which frequently exists between eye-strain and the general health, how these influence one another, and how therefore the practitioner must be familiar with the far-reaching effects of eye-strain if he would deal successfully with these sufferers, who will generally apply to him in the first place for the relief of their distressing symptoms.

Eye-strain frequently acts by exhausting the nervous system of the patient, and hence through the medium of brain and spinal cord often has a profound and far-reaching effect on the functions of the various organs of the body and on the general nutrition of the patient.

I am not one of those who would attribute "all the ills that flesh is heir to" directly to the varied effects of eye-strain. There has been a tendency on the part of some writers, especially in America, to exaggerate the far-reaching effects of eye-strain, and this has given rise to a certain amount of discredit and scepticism regarding the subject. But as experience becomes wider one becomes more and more impressed with the fact that eye-strain has often a most prejudicial effect on the general health of the patient, and that great improvement in this may often be brought about simply by the relief of the eye-strain.

An important thing to bear in mind is that whilst eye-strain often manifests itself by pain or discomfort in the eye itself, this is not always the case. In many cases the eye-strain is accompanied by no pain or discomfort in the eye, but by symptoms altogether outside of the eye itself, and these are the cases which often escape the notice of the practitioner unless his attention has been specially directed to the subject. It will be well for him, therefore, to thoroughly familiarise himself with these symptoms of eye-strain, which arise apart from the eye itself, and this knowledge will often be of the greatest service in ministering to the well-being of the patients under his charge.

Another most important thing for the practitioner to bear in mind is that the symptoms which I am about to describe as arising from eye-strain may be due to a very small error of refraction, and hence may never be suspected either by the physician or by the patient. I think this is peculiarly true of astigmatism, where a very small error, even 0·25 D., may give rise to distressing symptoms. In fact, my experience is that the small amounts of astigmatism give rise to symptoms of discomfort more frequently than the high degrees. The explanation, I think, is that a person with a high degree of astigmatism makes no effort to see better, as his vision is so defective, but that the smaller degrees of astigmatism, only causing a slight blurring, induce the patient to make a continuous accommodative effort to counteract it and get clear images, and hence cause continuous ciliary strain. These patients with slight degrees of astigmatism have good vision, and many of them pride themselves on their good vision, and are rather indignant at the idea of their symptoms being due to eye-strain. Patients with hypermetropia and suffering severely from eye-strain may have absolutely normal vision if tested by the test types, and it is this fact which completely misleads frequently both the patient and physician as to the true cause of their symptoms.

Another reason why eye-strain, as a cause of symptoms, is often overlooked is because the patient is already wearing glasses and has derived little or no benefit from them. It cannot be too strongly emphasised that to derive benefit the refractive error must be exactly and properly corrected. In most cases this cannot be satisfactorily accomplished without examination of the patient under homatropine or atropine. This can be properly done only by an ophthalmic surgeon, and nothing requires greater care than the fitting of patients with appropriate glasses. In many cases, as when there is marked inequality of refraction in the two eyes, the problem is a very difficult one and requires great care, thought, and experience.

Of all the reflex symptoms of eye-strain, the most frequent is headache, and yet very many cases of ocular headache go on suffering for years without the true cause being suspected. It is important to bear in mind the points with relation to eye-strain which I have already mentioned—viz., that eye-strain may be present without the patient experiencing any discomfort or pain in the eyes; that eye-strain may be present although the patient possesses good and even normal vision as tested by the types; and that glasses will not give relief unless the refractive error has been adequately and exactly corrected. Bearing in mind these facts, it is evident that the only safe rule of practice is that every patient suffering from headache of a recurring or chronic character should have his refraction carefully examined by someone thoroughly competent to make such an examination.

The ocular headache may occupy any position—frontal, vertical, or occipital, and I have frequently seen pain even at the back of the neck due to eye-strain. Whilst the situation of the headache does not guide us to the diagnosis, in the majority of cases it is frontal or vertical. Ocular headache is generally absent in the morning. If the patient has had a good night's sleep he wakens up free from headache. It begins in the course of the day and gradually increases in intensity as the day goes on. This is always the case with a pure ocular headache. This is in contrast to the character of the toxic headache, which is worst in the morning after a good night's sleep, and becomes better when the patient gets up and exerts himself. The toxic elements accumulate in the blood during sleep and exercise helps in their elimination. In many cases of headache we have a combination of the toxic and ocular, and in such cases the patient wakens with a headache, which, however, gets worse as the day goes on. In such cases the cure of the patient can only be accomplished by the relief of the eye-strain and the removal of the toxæmia, of which constipation is a frequent cause. Anæmia and eye-strain are also a frequent combination in the production of headache, and cure can only be brought about by the removal of eye-strain and the internal administration of drugs for the cure of the anæmia.

This complex origin of headaches is a point that is very frequently lost sight of, attention being given to one factor only in the case. It is to be remembered that whilst eye-strain is frequently the sole cause of headache, there are other cases where the eye-strain is only one factor in its production. The relief of the eye-strain will benefit the patient, but complete relief will not be given until all the causal factors have been dealt with and removed.

It is very remarkable how much the general health of the patient benefits by the removal of a chronic headache. Even if the headache has not been very intense, its frequent and often daily presence produces in the patient great mental depression, which through the influence of the nervous system has a powerful influence on the nutrition of the body as a whole. The complete removal of this headache, which has made the patient's life miserable, lifts him into a new world, and the general condition of the patient, both mental and physical, is enormously benefited thereby.

In addition to definite headache patients often complain of peculiar sensations in the head, which disappear on the relief of eye-strain and which are undoubtedly due to it. A feeling of pressure or tension in the head is the most common of the head sensations apart from pain. Less frequently I have heard patients complain of a feeling of tingling or crawling over certain areas of the head, and in some cases the patients could not venture to describe the sensation further than remarking that there was a very peculiar feeling in the head, always produced by the use of the eyes.

I have seen several cases of distressing insomnia which were directly due to eye-strain and which disappeared completely when the eye-strain was removed. The most striking case of this kind I saw about a year ago. The patient suffered so much that he became neurasthenic with lowering of the general nutrition of the body, and had been away from his work entirely for about

four months during the preceding winter. He was a hypermetrope with astigmatism and was engaged at an occupation where there was great and continuous eye-strain. At night after his day's work he was so exhausted that he was unable to do anything, and when he went to bed he could not sleep. This state of affairs gradually impaired his general nutrition and especially exhausted his nervous system, so that he felt himself unable for his work and was away from it for four months. There being both hypermetropia and astigmatism, there was a constant strain on his accommodation, so that this patient suffered severely. I prescribed two pairs of glasses for him, one for constant wear and the other for near work, which put his accommodation in a state of rest. It was very remarkable to see the speedy improvement in this patient's condition. He had no longer the sense of exhaustion after his day's work and got a good night's sleep after going to bed. This brought about a very rapid improvement in the patient's general well-being and condition. Since wearing his glasses he has been able to go on steadily with his work without any difficulty.

I have seen several cases where the patients had been using hypnotics for considerable periods, but when their refractive error was properly corrected and eye-strain completely relieved they were able to dispense entirely with their hypnotics in a very short period of time. In all patients using the eyes much for near work and suffering from insomnia eye-strain should always be thought of as a possible cause.

The condition of nervous exhaustion commonly known amongst brain workers as "brain-fag" is very frequently simply due to eye-strain. Those engaged in pursuits which necessitate the close and continuous use of the eyes for reading and writing often experience a sense of prostration and exhaustion, frequently described as brain-fag, nerve exhaustion, and neurasthenia. The period during which the individual can work may become gradually more limited until he is wholly incapacitated from further effort by this increasing sense of exhaustion and prostration. In such cases I would strongly urge the very careful examination of the refraction of the eye. In such patients reading and writing constantly from eight to twelve hours a day, a very slight refractive error often produces a peculiar sense of exhaustion which is mistaken for cerebral exhaustion. I speak from experience of the great benefit derived in many such cases by the correction of refractive errors, often very slight. The relief of the eye-strain soon led to the disappearance of the sense of exhaustion at the end of the day's work and what had been for years regarded as "brain-fag" was seen to have been in reality "eye-fag."

Choreiform movements of the facial muscles in children are frequently due to eye-strain and disappear when the eye-strain is relieved by the prescription of a suitable glass. The spasmodic movements are most frequently met with in, and sometimes confined to, the orbicularis palpebrarum muscles, so that the patient is constantly blinking, and is often thought to be suffering from a mild attack of chorea. A large proportion of such cases are due to eye-strain, and when this is so the spasmodic movements will be greatly relieved or even abolished temporarily by the use of atropine, but permanent relief is only obtained by the wearing of suitable glasses. Although the spasmodic movements are often confined to the orbicularis muscles, they may extend to the facial muscles, and these cases are even more likely to be mistaken for cases of chorea.

Vertigo is another symptom sometimes produced by eye-strain. Most are familiar with vertigo as a symptom of cerebral disease, of aural disease, of gastric disturbance, and of several diseases of the nervous system. We are all familiar also with ocular vertigo, due to paralysis or paresis of an ocular muscle, and which always disappears on the closure of one eye. Few, however, think of the possibility of vertigo as the result of eye-strain. I have seen two cases where this was so severe that the patients were supposed to be suffering from disease of the nervous system. In all the cases of vertigo I have seen due to eye-strain it has been associated with hypermetropia or hypermetropic astigmatism, and rapidly disappeared after relief of the eye-strain by the prescription of appropriate glasses. In all cases of vertigo, therefore, which cannot be traced to a definite cause, and which do not yield to treatment, eye-strain ought to be thought of as a possible cause, and the patient's refraction carefully examined and any defect corrected. Eye-strain sometimes plays an important part as a causal factor in dyspepsia, and many cases of dyspepsia, though relieved by drugs and dieting, will not be cured until the factor of eye-strain is completely eliminated by the prescription of suitable glasses for the patient. The nervous system plays a most important part in the causation of many forms of dyspepsia, and it is frequently through the exhaustion of the nervous system by prolonged eye-strain that the functions of the stomach are deranged. It is in the acid form of dyspepsia especially that I have found eye-strain play an important part. In this form of dyspepsia the discomfort comes on a considerable time after food and is relieved by food. This form of dyspepsia is nearly always associated with a lowered tone of the nervous system. It is an exceedingly obstinate form of dyspepsia to treat, as drugs seem to have little effect on it apart from the temporary relief of symptoms. Cure is to be brought about only by an improved tone of the nervous system, and in some cases the relief of the nervous exhaustion produced by eye-strain is the only possible way of effecting this and so curing the patient.

I have said nothing of the local manifestations of eye-strain in the eye or its appendages. These are well known, and their very presence at once directs the attention both of patient and physician to eye-strain as their probable cause. I have in these observations limited myself to discussing the symptoms of eye-strain outside the local manifestations, with which I have become familiar in my daily work as an ophthalmic surgeon. My purpose has been to call attention to conditions often profoundly affecting the general health of the patients which are not sufficiently known to the practitioner as possible results of eye-strain, and yet where the removal of this factor is in many cases the only possible means of giving the patients relief.

Glasgow.

DIFFUSE LATENT LABYRINTHITIS: ITS DANGERS IN THE RADICAL MASTOID OPERATION.

BY JAMES HARPER, M.A., M.B., CH.B. GLASG.,
FORMERLY HOUSE SURGEON TO THE HOSPITAL FOR DISEASES OF THE THROAT, GOLDEN-SQUARE, LONDON.

AMONG major surgical operations that known as the radical mastoid operation is considered to be one of those which may be performed with practically no danger to the life of the patients. Large numbers of this operation are performed yearly with such gratifying results that operators are inclined to be lulled into a false sense of security and to point to what are unfortunately in some cases only apparent successes as proof of the almost non-existence of danger.

All surgeons of experience, whether their work brings them into contact with aural work or not, recognise the grave danger there lies in aural suppuration as regards intracranial complications. They know the intimate connexion there is between these two conditions, and when in the course of aural suppuration symptoms arise which point to a suspicion of intracranial mischief they do not hesitate in advising more radical treatment for the ear than that which it has been receiving.

Another type of case for which advice is continually being sought is that of a patient who for a number of years has had a discharging ear. All the recognised methods of conservative treatment suitable to the case have been tried without success, and the patient now seeks advice as to whether something cannot be done to rid him once and for all of this troublesome affliction. If the hearing be good the surgeon may counsel waiting a little longer, but if, as is the general rule, the hearing has gone or has practically disappeared, the treatment generally advised is the radical mastoid operation. Having tendered this advice the surgeon is asked the usual questions: Is there any danger and will this operation stop the discharge?

The answer to the first question is that with the exception of the risk necessarily attached to an anæsthetic the danger to life is practically non-existent. The answer to the second question is in the affirmative. These are the two replies usually given. Yet most of us who have had experience of aural work, or who have been following the literature of the

subject, can call to our minds cases which did not fulfil these expectations; how an apparently uncomplicated case on which the radical mastoid had been performed was carried off in the course of a few days by a most virulent form of meningitis. The operation had been performed with the usual care and the labyrinth had been in no way injured, yet on post-mortem examination the labyrinth is found to be destroyed. Cases of exactly this type appear again and again, and we ask ourselves the questions, Could these results be foreseen, and being foreseen could they be avoided?

In considering the second question I wish to exclude those cases in which there is a tuberculous or syphilitic affection or in which there has been some flaw in the after-treatment of the operation. Immediately after the operation the patient as a rule makes a good recovery and progress is satisfactory. But as time goes on the ear shows a great reluctance to heal. There is always a little discharge which varies in quantity from day to day, but never absolutely dries up. This goes on for a month or two, and in some cases for several years, till the patient is again under treatment—this time for cerebellar abscess. We again ask ourselves the questions, Could we have foreseen this result even in those cases which occurred years after the original operation? and having foreseen could we have avoided the non-healing and the intracranial complication?

Results such as these recorded for a long time puzzled surgeons. True, on post-mortem examination in a large number of the cases which died from meningitis the labyrinth was found to be diseased. But there had been a total absence of symptoms which could suggest a possible labyrinthine involvement either before or after the operation. In the same way those cases which suffered from cerebellar abscess were found in the majority of instances to have a diseased and totally destroyed labyrinth. But here also there had been no symptoms which pointed to a possible affection of that organ.

The careful researches of Ruttin and Bárány have given us the key to these conditions, and they have shown us how in the majority of cases such untoward results may be avoided. Various observers have recorded the results of their investigations on the labyrinth in health and disease, but it has been left to Bárány, who used them as a basis of his own researches, to give us a sure method of testing the labyrinth and thus come to a certain opinion as to its condition. In a former article I drew attention to these tests, but a short *résumé* may be not out of place here.[1]

There are three tests on the labyrinth—the rotatory, the galvanic, and the caloric. Of these only the rotatory and the caloric are of practical value. They both have for their object stimulation of the labyrinth by causing a flow in the endolymph of the sensitive semicircular canals. In the rotatory test the patient is turned in a revolving chair. During rotation there is a nystagmus in the direction of the turning, but on stopping there is a nystagmus in the opposite direction.

It is a well-known fact that if the ear be syringed with water above or below the temperature of the body there is caused, accompanied by other phenomena, a nystagmus of both eyes. In 1881 Babinsky, while experimenting on animals, syringed the ears of rabbits with cold water and found he got nystagmus. He continued the syringing and burst through the membrana tympani and also the oval window of the labyrinth. The water poured through the labyrinth into the brain, his animals dying from meningitis. He was wrong, however, in concluding that the nystagmus which he got before perforation of the oval window was from the brain.

Bárány has shown that if an ear with a healthy labyrinth be syringed with cold water we get a nystagmus towards the other side, while if hot water be used—i.e., water above the temperature of the body—we get a nystagmus to the same side. This is brought about by causing a cooling or a heating of the endolymph in the canal which is nearest the water, thereby setting up a flow in the fluid which is necessarily microscopic. This is called the caloric test. Various other phenomena accompany this nystagmus—giddiness, disturbance of equilibrium, and nausea, but these only usually occur if the rotation or syringing be continued too long. The nystagmus is the first and most constant symptom to appear, and it is on it that we rely for any diagnostic value. There are two conditions in which the caloric test cannot be used—namely, where masses of cholesteatoma fill up the cavity of the middle ear, or where the external meatus is so constricted as to hinder the passage of a stream of water.[2]

The practical utility of these two tests is obvious. Should the labyrinth be destroyed by trauma or disease, on their application there will be no resultant nystagmus from the diseased ear.

The labyrinth may be affected in various degrees by aural suppuration from a small circumscribed local labyrinthitis to total destruction of the labyrinth by acute suppurative labyrinthitis. The affection passes through the various stages from the simple form to the acute, but the time necessary for a circumscribed labyrinthitis to change into the acute suppurative form varies very greatly in different cases. In some patients the transition takes place in a few hours, in others it takes months or years. But while this is so, as long as the disease has not progressed to the acute suppurative form the patient is to all intents and purposes safe from intracranial complications. If, however, acute suppurative labyrinthitis has set in, the patient is in grave danger. Should the case not be operated on at this stage there are two possible endings to the picture. In most cases meningitis now sets in, usually in a very virulent form, and death closes the scene, or we have diffuse latent labyrinthitis. It is to the grave dangers of this latter affection that I would desire to draw attention.

Fortunately, in the majority of cases the onset of acute suppurative labyrinthitis is well marked. The patient is acutely ill and advice is sought. But this is not always so. Indeed, during the last eight months I have met with three cases in which the labyrinthine function was totally destroyed by middle-ear suppuration, but in which the patients could give no history of labyrinthine trouble other than attacks of giddiness of no great severity. In one case, that of a woman, 24 years of age, whose left ear had been discharging since the age of 14 years, after scarlet fever, there was no history of labyrinthine trouble at all, and it was only on the careful application of the rotatory and caloric tests that one became aware that there was more in the case than merely a discharging ear.

As has been already stated, the labyrinth may be affected in varying degrees by aural suppurations. The simplest form is that of circumscribed labyrinthitis. In this condition only a part of the labyrinth is affected, varying from a small portion of one of the canals, usually the horizontal, to the whole of the vestibule or cochlea, but never both vestibule and cochlea together. Here the affection is purely local. Only a part of the labyrinth is affected, and beyond the surrounding zone of inflammation the labyrinth is normal as regards its function. If the cochlea be not affected there will be some hearing, but always there is present the "fistula symptom." This symptom, which is pathognomonic of circumscribed labyrinthitis, is elicited as follows. By means of a pneumatic speculum the air in the external auditory meatus is compressed or rarefied. On compression we get a movement of the eyes towards the diseased side and on rarefaction to the opposite side. During this stage of the disease the patient is safe from intracranial complications and many cases go no farther. Should the radical mastoid operation be performed the fistula, as a rule, becomes covered over by newly-formed bone, and the labyrinthine function becomes normal. Some fistulæ, however, are not covered by bone, but by a thick layer of fibrous tissue, and in a number of such cases the fistula symptom remains.

The next stage in the disease is that of serous labyrinthitis. Should the case of circumscribed labyrinthitis be not operated on it will, after an interval which varies much in different cases, go on to this condition. Here the whole of the labyrinth is affected, but there remains some function. We can imagine the whole of the endolymph as congealed into a mass, jelly-like in consistence, but there is no actual suppuration throughout the labyrinth. Well-marked vestibular symptoms are present, and there is a strong nystagmus to the opposite side. Hearing, however, may be absent or present, while the caloric test may or may not elicit some response; but there is always present either a certain amount of hearing or some caloric reaction, or perhaps a little of both. In this stage the patient is also safe from

[1] THE LANCET, May 7th, 1910, p. 1266.

[2] In these cases the rotatory test may be used.

intracranial complications, but the transition to the acute suppurative type is as a rule rapid. The objective symptoms generally do not increase in severity, but any hearing or caloric reaction which was present has now disappeared. While the various degrees of labyrinthine implications may be successively observed in many cases, yet there are some in which the changes are so rapid that the first picture which is presented to the surgeon is that of acute suppurative labyrinthitis. Should operative interference be not immediately undertaken there are three possible endings, meningitis, brain abscess, or latent labyrinthitis. Should there be no immediate complication, in about a fortnight all symptoms have disappeared. The vestibular symptoms with the accompanying nystagmus will have passed away, the nystagmus being the last to disappear. The picture now presented to us is that of an apparent case of chronic middle-ear suppuration in no way different from the many hundreds we see yearly. On closer examination, however, we find the hearing is completely destroyed and on application of the caloric test there is no response. Before the introduction of this test it was impossible to diagnose this condition. Such cases were treated by the ordinary radical mastoid operation, and the surgeons were at a loss to explain the unfortunate complications set up. True, post-mortem examination showed that in the majority of such cases the labyrinth was diseased. As a rule it was found to be the seat of suppuration, and the question arose as to whether this condition was the cause of or accompanied the intracranial mischief.

Latent labyrinthitis has two definite charasteristics. The hearing is totally destroyed, and there is no response to the caloric test. If we find a case of middle-ear suppuration with these two symptoms we may safely conclude that the labyrinth is destroyed, and on examination of such a labyrinth we find that the whole of the labyrinth is disintegrated. A certain number of these cases if left alone will recover. Nature herself can set up a barrier against the inward progress of the disease and the labyrinth is gradually cast off piece-meal. If such a case be left to itself, in all probability there will be no further trouble, but such a part will always be a place of least resistance. The dangers are obvious. Cases of middle-ear suppuration are very liable to recurrent attacks of what are either new infections or exacerbations of the old infection. Now each time this occurs there is a danger of the healed labyrinth again becoming the seat of disease. While some cases of latent labyrinthitis, if left to themselves, would heal up, yet this is not always so. The process gradually makes its way inwards until it reaches the cranial cavity. Nature has not been able to throw out a sufficiently strong barrier to stop its progress, and, indeed, MacEwan has shown that frequently the sclerotic ostitis is in the external bone and not between the necrotic area and the cranial cavity. Such a case usually goes on to cerebellar abscess.

It is a well-known fact that infection by pre-existing channels as a rule causes meningitis, an exception to this being the aquæductus vestibuli, while if the infection gradually makes its way through the bone the membranes have time to become adherent, and the result is, as a rule, brain abscess. Neumann in 112 cases of cerebellar abscess found 40 to be due to latent labyrinthitis or 43·75 per cent. None of these had been treated by operation for the aural discharge. We can now understand the untoward results got by incomplete operative interference with such cases. Should the radical mastoid operation be performed on a case in which actual suppuration is going on in the labyrinth one of two results will follow, either the infection in the labyrinth will get a fresh impetus and rapidly increasing in strength cause infection of the meninges, or the ear continuing to discharge, at some later date be the cause of brain abscess. We have in such a case added fuel to a fire which might of its own accord have died down, but which now that it has been roused up will go on increasing in strength. As regards those rare cases in which the suppuration in the labyrinth has died down, should the radical mastoid operation be performed this weak spot in the immediate neighbourhood will, in all probability, be infected anew and either meningitis or brain abscess result.

I have endeavoured in this short paper to draw attention to the grave danger of operating on the mastoid before having tested the condition of the labyrinth. The caloric test is simple and easy of application, and all cases, before being submitted to operation, should have this test applied to them. The labyrinth operation can be undertaken with a great degree of safety, and where the labyrinth is found to be affected either by acute suppurative labyrinthitis or latent labyrinthitis, this operation must be performed in addition to the radical mastoid operation. In the lesser degrees of labyrinthine involvement the radical operation should be performed, but a careful watch must be kept on the labyrinth, and should the case progress to the acute suppurative type the labyrinth operation must be undertaken at once. Long-standing cases of chronic middle-ear suppuration should always be examined for latent labyrinthitis. If the caloric test be made a routine practice in all cases such as have been described, then the untoward results after operation will become rare and the number of brain complications from aural suppuration will be greatly decreased.

Glasgow.

THE PRESENT POSITION OF THE X RAY TREATMENT OF RINGWORM.

BY S. ERNEST DORE, M.D. CANTAB., M.R.C.P. LOND.,

PHYSICIAN IN CHARGE OF THE SKIN DEPARTMENT AT THE EVELINA HOSPITAL FOR SICK CHILDREN, SOUTHWARK BRIDGE ROAD, LONDON, S.E., AND AT THE HAMPSTEAD GENERAL HOSPITAL.

The Present Position of the X Ray Treatment of Ringworm.

OWING to some real and some imaginary dangers attending the use of X rays for ringworm of the scalp doubt has recently been expressed in many quarters as to the advisability of employing a method which is admittedly the only efficient one yet devised for dealing with this intractable disease. A trivial complaint as regards the health of the child, tinea tonsurans brings in its train so long a category of ills that I have more than once heard long-suffering mothers say that they dreaded scarlet fever or pneumonia less. The disorganisation of the home that ensues from the isolation of the sufferers; the anxiety of the parents lest other children in the family should become infected; the complications with medical men and schoolmasters; the social ostracism; the loss of schooling; the wearisome process of constantly rubbing on ointments with little apparent result except the production of sore heads in the children and sore hearts in the parents,—these are some of the difficulties which have to be faced under the old *régime*. Nor is the position of the medical practitioner an enviable one; lack of success in treatment engenders want of confidence—often shared by the relatives of the patient—in his ability to cure the case; certificates of cure are not always preceded by a microscopical examination, and the hasty return of the boy from school leads to recriminations between schoolmaster, school medical officer, local practitioner, and parents. As a last resource a specialist is perhaps consulted; the case may turn out to be one of alopecia areata and expert knowledge is not invariably accompanied by tact, nor will a superfluity of emollients always soothe the troubled waves. Such difficulties as these will still occur, but they are reduced to a minimum when the head is rendered completely bald and therefore free from infection by the X rays, a process of cure which takes a few weeks instead of many months, or even years, when the old methods are employed.

When large numbers of school children are infected with ringworm the question of treatment becomes of national importance from an educational point of view. Unless compulsory preventive measures can be instituted, such as the wearing of some kind of head-gear, like the muzzle in the prophylaxis of rabies, it is essential to employ the quickest possible method of curing the disease, and a strong case must be made out by the conscientious objectors before condemning a method which holds out a hope of stamping it out from the community altogether.

London County Council Reports.

Owing to improved methods of medical inspection in the London County Council schools ringworm now rarely escapes detection, and the results of routine microscopical examination show that its frequency has been much under-estimated in past years. It is a striking commentary on the lack of official recognition of dermatological teaching in the medical

curriculum that in the London County Council returns for 1909 medical certificates that the children were free from ringworm or fit to return to school had been given in 186 cases, but of these ringworm was found in 179 and favus in one, the fungus being absent, or not found, in six only. In the year ending March, 1908, 151 cases were given certificates and ringworm fungus was found in 144 and favus in three, while from April to December, 1908, medical certificates were given in 127 cases where specimens were submitted, ringworm being present in 119 cases and absent only in eight. As regards the relative frequency of the disease 3463 cases were found to be still suffering from ringworm in 1909 (446 of which were treated by Roentgen rays). Of 3019 specimens sent up for examination 2343 were found to be forms of ringworm (comparing with 2175 examined in 1908, of which 1705 were ringworm, and 1578 in 1907, with 1094 showing ringworm fungus).

An organised effort is now being made by the London County Council to cope with the disease. In the report for 1908[1] the recommendations of a special subcommittee (London County Council Report for the two months ended Dec. 31st, 1908) were as follows: 1. That, owing to this obnoxious and contagious disease, many children, estimated at 2950 annually in regular attendance, are prevented from attending school, and expose others to infection at home. 2. That the cure of the disease by lotions and ointments is a process occupying many months, or in some cases even several years, the patient being meanwhile prevented from attending an ordinary school and remaining a source of infection. 3. That the disease is now capable of being cured rapidly by X ray treatment, the child ceasing at once to be a source of infection and able to resume school on the regrowth of its hair. 4. That owing to the fact that X ray treatment is provided only at a few hospitals, where its use is greatly in demand for a variety of adult and other diseases, the treatment is available only to a very limited extent for ringworm cases. 5. That the delay and loss of time suffered by parents seeking, often from a distance, treatment for the children affected frequently results in unwillingness to submit the child for treatment, the child meantime remaining a source of infection. 6. That by means of the X ray treatment the disease can be practically stamped out, thus rendering unnecessary the present schools specially maintained for children suffering from it. 7. That provision is desirable for the treatment of the disease by X rays at a fixed centre or centres. 8. That power shall be given to compel the attendance of children for treatment immediately on discovery of the disease.

In the report for the year 1907 it is stated that in 12 schools taken at random in various parts of London 26,766 attendances were lost from ringworm in 12 months. On this basis, the loss of attendance in the whole of London is 1,179,934. Taking the minimum number of sessions in one year required by the Board of Education to be 400, the number of lost attendances is equal to 2950 children in average attendance, or a loss of grant amounting to £5654 per annum. "Evidently," says the report, "there is a financial profit on the treatment of ringworm besides the increased time gained in education." Referring to the X ray treatment of children at Croydon, it was found that the cases are cured in a few weeks and numerous cases given a clean bill of health within the month. It is further stated that there is no doubt that the installation of this treatment will be one of the duties to be attended to in the proposed school clinics, and probably the formation of special ringworm classes will not be required.

The treatment of favus is also considered in these reports, but I do not propose to deal with it except to say that for obvious reasons it is less successful than for ringworm. As favus is almost entirely confined to the alien population it is to be hoped that when proper precautionary measures are taken to prevent the introduction of this and other contagious diseases into the country favus, at any rate, will almost cease to exist.

Metropolitan Asylums Board's Reports.

The efficacy of the X ray method was recognised by the Poor-law authorities by the introduction of this form of treatment into the Metropolitan Asylums Ringworm School in 1905. Before this year the average time during which the child stayed in the school was 19 months; when the X rays were first employed it was reduced to five months, and in 1909 it fell to three and a half months. From the year 1905 to 1908 some 1200 cases were treated by X rays, and about 850 cases in 1909. The number of cases of ringworm admitted at the Downs School during the year 1909 was 947. The corresponding numbers for the years 1903 to 1908[2] were:—

1903	673	1906	705
1904	619	1907	748
1905	619	1908	807

"This increase has been rendered possible by the efficacy of the X ray treatment, which has resulted in the great diminution in the period of detention of patients."

In 1909 139 children were admitted in excess of the number in 1908, and 241 more were discharged cured than in 1908. Dr. T. Colcott Fox reports that Dr. H. G. Adamson's method of depilating the whole head in five exposures was carried out with success and saving of time. The cases completed were 984 by 2925 exposures, which works out at about three exposures per child. He adds that "we have never observed any ill-effects on the children's health, even in infants."

The report for 1910 is not yet published, but Dr. Colcott Fox tells me that 993 children were successfully treated by X rays without a single instance of permanent baldness. With the exception of a few severe cases of dermatitis when the X rays were first introduced, and a few atrophic patches in subsequent years, cicatricial alopecia has been practically unknown.

Results of X Ray Treatment in Paris.

In Paris the results have been equally striking. Sabouraud states that he has been able to dispense with wards containing 150 beds from the ringworm school which are now being used for other purposes. Reckoning that one bed represents a capital of 10,000 francs, the Assistance Publique has thus made a saving of 1,500,000 francs owing to the introduction of radiotherapy. Up to 1903 the children stayed in the school about two years and there were about 110 cured annually out of 300 pupils. At the present time the treatment requires three months, and 500 children are discharged cured each year, the school being now reduced to 100 beds. The cost for each child during its stay in the school is 260 francs instead of about 2000 francs. Finally, the school will in future be able to accommodate all the cases of ringworm in Paris, including about 350 at the provincial centres. In other words, the Assistance Publique recovered in 1904 a capital of more that 2,500,000 francs, in the shape of 150 beds at the St. Louis Hospital and 350 beds in the provinces. Moreover, it should continue to make a saving of about 400,000 francs per annum by curing five times more cases of ringworm than formerly.[3] According to more recent information, with which Dr. Sabouraud has very kindly furnished me, there are now only 60 to 80 children at the ringworm school, and the Assistance Publique has definitely decided to put the ringworm school at the disposal of the provincial hospitals so that the departments will now send their cases to Paris. Dr. Sabouraud believes that in future there will only be sporadic cases or small epidemics of ringworm in Paris.

Risk of Permanent Baldness.

The old method of treating ringworm is not entirely devoid of risk, for to obtain definite results in a reasonable time it is often necessary to use applications of sufficient strength to set up a certain amount of inflammation around the hair follicles, a process which is occasionally accompanied by scar-formation and the production of small bald patches on the scalp. But it must be admitted that when the X rays are used there is a much greater risk of producing permanent alopecia, and unfortunately there have been a certain number of cases in which failure of regrowth of the hair has occurred. This unfortunate result is partly due to the delicate nature of the method, which requires that a definite dose of sufficient strength to cause epilation be given, failure resulting if the dose falls short of the required amount, while permanent alopecia may ensue if this dose be much exceeded, and partly to the fact that until comparatively recently

[1] For access to this and other reports I am indebted to the kindness of Dr. J. A. H. Brincker.

[2] Annual Report of Metropolitan Asylums Board for the year 1909, pp. 22 and 37.

[3] Dr. R. Sabouraud: Les Taignes, Paris, 1910, pp. 803–805.

there was no reliable means of estimating this epilation dose correctly. The latter difficulty has now been overcome by the use of the Sabouraud-Noiré pastille. If accidents may happen to skilled operators at the present time, it is astonishing, not that they have occurred in the past, but that when cases were treated by fractional doses or even by single doses in a more or less haphazard manner, without the pastille to rely upon, they have been so comparatively few in number.

Alopecia with Dermatitis.

Permanent alopecia may occur either with or without preceding dermatitis. The first variety is the one usually met with and is practically always the result of over-exposure. In order to prevent this calamity certain precautions should be taken, the chief of which are as follows:—

Precautions against over-exposure.—In the first place, a pastille should always be used, and it must be the pastille of Sabouraud and Noiré; other varieties may have the standard tint too dark or too light and thus constitute a source of danger in themselves.

Secondly, the pastille must be placed in the correct position—viz., exactly midway between the anticathode and the skin, i.e., 7½ cm. from each, in the direct path of the rays, and as near the central rays as possible; it should be placed on a metal surface and be protected from light during the exposure. When taken out for examination, the current should be switched off and the pastille compared with the standard B tint in direct daylight and not in artificial light. It should be replaced as quickly as possible and not be examined too often, since the B tint soon loses its colour when exposed to light.

Thirdly, a tube of medium hardness, which will not become too soft or too hard during the application, should be used. In my experience the best results are obtained from a tube which can be run with the anode kept at a dull red heat, maintaining an alternative spark gap of three to four inches throughout the whole time of the exposure.

Fourthly, a milliampèremeter should be used in the secondary circuit as a control.

Alopecia without Dermatitis.

Permanent alopecia without preceding dermatitis is, in my experience, a rare phenomenon, and I have mostly seen it when a first exposure has failed to bring out the hair and a second is given too soon—i.e., less than a month after the first—to the same area. It has also been attributed to the application of strong remedies to the scalp before it is X rayed; to the convexity of the scalp not being allowed for in measuring the distance from the tube, or to movement on the part of the child; to the anode not being accurately centralised, or to the use of an unsuitable tube.

If idiosyncrasy, which has been shown by long experience to be so slight or so rare as to be negligible, be excluded, all these dangers are preventable, and although accidents may always happen, there is no reason why permanent alopecia should occur if reasonable care and judgment be observed on the part of the operator.

Pustular Dermatitis.

A pustular dermatitis of the scalp resulting from pyogenic infection is a very troublesome complication in hospital practice. Its frequency and severity are doubtless in part due to the lowered resistance of the scalp brought about by the action of the rays, and it can only be prevented by strict attention to cleanliness and the application of a weak antiseptic lotion or ointment before and after exposure. The wearing of a tightly-fitting linen cap, fastened on by a tape or elastic under the chin, day and night is a useful precaution. This pustular dermatitis, however, is usually superficial and yields to antiseptic remedies. It is not often a cause of baldness *per se*.

Recovery of Growth of Hair.

With regard to recovery of growth of the hair, Sabouraud contends that, although regrowth may be delayed by a slightly excessive dose, if new hair has not made its appearance in six months after depilation the patch will be permanently bald. This is no doubt true of severe cases, but I have seen considerable improvement in atrophic patches after this period of time, and know of one case in which I am told on good authority that complete recovery took place after 12 months.

Risk of Injury to the Brain.

I have endeavoured to show how the only real danger of the X ray treatment of ringworm—viz., the production of permanent alopecia—can be avoided. The danger of injury to the brain, if not merely hypothetical, as I believe it to be, is a far more serious matter than injury to the scalp alone. It has given rise to much discussion amongst workers in the subject as well as to many alarmist statements in the lay press. No doubt the publicity given to the injuries sustained by some radiographers, who have exposed themselves to the X rays for prolonged periods, often without adequate precautions, has had a large share in discrediting the use of X rays as a therapeutic measure. This, however, has no bearing upon the point under discussion, for no radiographer, as far as I am aware, has ever suffered any mental or cerebral injury from the rays. On the other hand, there are certain facts which make a close examination of the hypothesis not only advisable but imperative.

Radiograms show that X rays have little difficulty in penetrating the bones of the skull; nervous phenomena and pathological changes in nervous structures have been experimentally produced in small animals, and a few cases of nervous symptoms in children following X ray exposures have been recorded. It may be argued that a photographic plate is not the same as the cells of the human body; that large experimental doses given to small animals are not the same as therapeutic exposures given to children; and that such symptoms as have occurred in children—e.g., sleeplessness, headache, &c.—are more likely to be the result of the mental excitement caused by the operation than of any distinct effect on the brain substance; but the strongest argument undoubtedly rests in the absence of positive clinical evidence of harmful effects and the enormous numbers of children treated during the past five years, with absolutely negative results as regards the production of any symptoms of cerebral injury.

Sabouraud's Results.

Sabouraud states that since the end of the year 1903 he has been able to see and follow up every year in hospital alone an average of 500 children, varying in age from 2 to 15 years, who have been treated for tinea tonsurans by X rays. In no case has he been able to observe either cerebral trouble, or even any retardation of intellect, following the application of the X rays, and as the children under treatment continue their classes any intellectual change would be easily perceptible in them. In 17 cases idiots, epileptics, or backward children were treated and no modifications were observed.

Formerly Sabouraud refused to submit children of 2 years to the X rays for fear of possible accidents owing to the large fontanelle being imperfectly ossified. But since a rachitic child was inadvertently treated without any nervous reaction following after six months' observation, children of 2 years have been X rayed and always without accident. Even in cases where a double dose has been given by mistake no cerebral phenomena have ever developed.[4] I have already quoted Dr. Colcott Fox's opinion on this subject, and Dr. Adamson is in agreement with him.

In an exhaustive paper on the X Ray Treatment of Ringworm of the Scalp[5] Dr. J. M. H. MacLeod gives his experience of 370 children treated up to May, 1909. He was unable to obtain any evidence of injury to the brain from his own cases, from the literature on the subject, or from anyone with experience of the treatment whom he asked. His experiments, which I shall refer to later, also strongly negatived the possibility of any such injury occurring.

At the meeting of the British Medical Association at Belfast in July, 1909,[6] Dr. Sequeira said that he had treated 1400 cases by the pastille method and considered risk of injury to the brain purely imaginary. 267 of his cases had come from institutions where they were under expert examination of both medical officers and school teachers. From them he had had a report that in no single instance was there, after several years' interval, the slightest evidence of any delayed development or other injury to the brain.

From my own experience of the results of the X ray treatment in over 2000 children in hospital practice and private

[4] Dr. Sabouraud: Annales de Dermatologie et de Syphiliologie, vol. x., 1909, pp. 452–461.

[5] Dr. MacLeod: THE LANCET, May 15th, 1909, pp. 1372–1377.

[6] THE LANCET, August 14th, 1909, p. 468; and Brit. Med. Jour., August 21st, 1909, p. 654.

practice, I am able to confirm these statements in every particular. I have met with a few instances in which irritability, headache, and sleeplessness occurred soon after treatment. In one case in which persistent headache developed after the first few exposures, the symptoms did not recur when the applications were repeated, and in the others they were transitory and more easily accounted for on other grounds.

In a series of 50 cases sent to me from an institution for treatment by X rays I had one case of permanent alopecia; this was in a boy treated in 1906 without a pastille, in whom three exposures failed to cause epilation, and a fourth caused a vesicating dermatitis, followed by a bald patch of about the size of a five-shilling piece. These cases were treated between the year 1905 and 1909, both by the multiple and single exposure methods. The children have all been kept under observation since, and I have recently been informed that in all of them, with the exception of the one just mentioned, the hair has grown as well as or better than before, and that none has shown any indication of delayed physical or mental development or other deleterious effect referable to the X rays.

Experimental Evidence.

Experimental evidence of the quantity of rays passing through the scalp and bone during a pastille dose of X rays has been provided by Dr. MacLeod,[7] by Mr. R. Higham Cooper, and by Dr. Sidney Russ and Dr. Henry MacCormac, working in the Cancer Research Department of the Middlesex Hospital. Dr. MacLeod placed a piece of the thinnest portion of the parietal bone of a child's skull and a piece of fresh scalp in front of a Sabouraud pastille exposed at 7½ and at 15 cm. from the anticathode. He found that the bone absorbed 50 per cent., and the scalp approximately 30 per cent. of the rays, leaving 20 per cent., or one-fifth, of a pastille dose to enter the brain. In these experiments no allowance was made for the resistance of the meninges nor for the distance between the surface and centre of the brain. He came to the conclusion that the scalp and meninges so protect the underlying brain that only a very small proportion of X rays, if any, can reach it, and that this small proportion instead of doing harm may even act as a stimulant.

Mr. Cooper[8] found that the effect of a single dose on the cortex immediately beneath the meninges was about one-twentieth of a pastille dose. He also devised an experiment to show the effect of the rays which converged on the base of the brain during a total epilation. The experiment consisted in the introduction of a pastille through the foramen magnum of the dried skull of a child aged 5 years, the skull being exposed as in a case of total epilation. The pastille was turned to face the incident rays at each exposure. A screen of cardboard, coated with white lead until it offered the same resistance to the rays as a piece of fresh child's scalp, was placed on the skull. The number of exposures given to represent a complete epilatory dose was eight, but in the experiment 75 pastille doses were required—equivalent to nine and a half total epilations—before tint B was reached. Allowing for the increased distance of the experimental pastille from the tube, it was calculated that without allowing for the additional resistance of the brain itself and its vascular membranes the portion of the brain in the situation of the pastille within the skull would receive one-ninth of a Sabouraud dose during treatment of the whole scalp. He concluded that there was no risk of injury to the brain, and when Sabouraud's instructions were followed very little risk of injury to the scalp, and further, that even this risk would disappear with improved apparatus, especially as regards regulation of the vacuum of the tube.

Dr. Russ and Dr. MacCormac have adopted a more scientific method of measuring the rays by means of the electroscope, and, although their work is as yet unpublished, they have kindly allowed me to state that for a given specimen they find that 20 per cent. penetrates the scalp and skull.

The Kienböck-Adamson Method of Treatment.

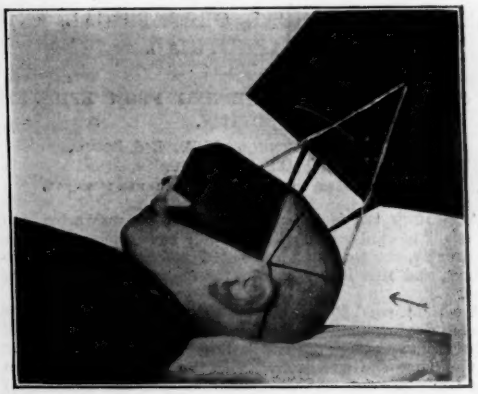
The old plan of giving multiple fractional doses has now, chiefly owing to the use of the Sabouraud pastille, been superseded by that of epilating a single patch in one exposure. Sabouraud's method for total epilation consists in covering each patch, after it has been exposed, with a disc of lead, the discs overlapping so that no fringes of hair remain. Eight or nine exposures are required for a head of average size.

The method which I have found superior to all others, both in efficiency and in the saving of time, is that first suggested by Kienböck, and subsequently elaborated and applied to the treatment of ringworm by Adamson.[9] The tube is placed in a box having an aperture of not less than 3 inches diameter for the passage of the rays, three wooden pegs project from the circumference of the aperture, so that the tube is at the correct distance when they rest on the scalp. The child's hair having been clipped short, the scalp is marked out as shown in the illustration, kindly lent me by Dr. Adamson (who took the photographs), five equidistant points being taken as a centre for

FIG. 1.

Showing scalp marked out for exposure of the whole scalp.

FIG. 2.



Showing the head in position for X-raying the front part of the scalp—position No. 1. The white lines indicate the cone of rays. The arrow indicates the direction in which the second dose—that to the back part of the crown—is aimed.

each exposure. Allowing 15 minutes as an average exposure (shorter exposures do not allow sufficient margin for slight errors of dosage) the whole scalp can be treated, either in one sitting or on successive days, in one hour and a half. The hair begins to fall as usual on the fourteenth or fifteenth day; in three weeks the child is quite bald and free from infection, new hair appears in about six weeks, and in three months the scalp is well covered. When fully grown the new hair is often thicker in texture and slightly darker in colour than the old, and is occasionally curly instead of straight. On account of the overlapping and the large size of the areas treated there is less likelihood of small patches of hair being left, and the risk of reinfection is thereby minimised. The

[7] Dr. J. M. H. MacLeod: Loc. cit.
[8] Mr. R. Higham Cooper: THE LANCET, August 14th, 1909, p. 467; British Journal of Dermatology, December, 1909, p. 391.
[9] THE LANCET, May 15th, 1909, pp. 1378-1380.

danger of giving marginal areas a double dose is also avoided. The fact that the whole of the scalp is usually exposed is no objection; experience shows that partial epilation is often worse than useless in hospital cases, and that total epilation should nearly always be insisted upon. Since I adopted this method in private practice a year ago and at the Evelina Hospital, where more than a hundred complete cases have been treated under the supervision of Mr. Cooper during the past nine months, the results have not only been more satisfactory than before, but the saving of time has enabled a larger number of hospital cases to be dealt with without any increase of risk to the children.

In conclusion, there are two points upon which I would lay stress. In the first place, if the X ray treatment is to be successful, it must be conducted in a methodical and systematic manner, by a trained operator and under skilled supervision; the child's head should be carefully and accurately marked out with a blue pencil before the treatment is begun, and the patient and apparatus should be watched during the whole time the child is under the rays. Secondly, the operator must not be stinted as regards efficient tubes and apparatus; the excessive use of one tube is false economy and may be dangerous, and such appliances as the milliampèremeter for measuring the current in the secondary, the valve-tube for checking the reverse current, the spark-gap for testing the resistance of the tube, &c., are additional safeguards.

The cases of permanent baldness I have seen have been, for the most part, due to the employment of an unskilled or careless operator or to the use of unsuitable tubes. But it is almost impossible to expect uniformly satisfactory results in the present crowded state of the electrical departments of the few London hospitals able or willing to undertake the X ray treatment, and it is a matter of urgent necessity that better provision shall be made for dealing with these cases in the future.

New Cavendish-street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF DEAFNESS ARISING FROM EPIDEMIC PAROTITIS.

BY LINDLEY SEWELL, M.B., B.S. LOND., M.R.C.S. ENG., &C.,
ASSISTANT SURGEON TO THE MANCHESTER EAR HOSPITAL.

ALTHOUGH the fact that serious deafness may arise from an attack of epidemic parotitis is well known to aurists, it is apparently not so well appreciated among general practitioners, and this is my excuse for reporting the following case.

A patient, aged 36 years, came to see me complaining of marked deafness and tinnitus on the right side. The trouble dated from an attack of mumps three months previously, and at that time she was assured that the deafness she noticed was transitory and was merely due to catarrhal swelling of her Eustachian tubes. She had for a few days marked dizziness and an inclination to vomit. On examination the tympanic membrane had a normal appearance. The akoumeter was heard at a distance of 3 inches; and, excluding the sound ear by means of Bárány's noise apparatus, the spoken voice was heard at about a distance of 3 feet. Using tuning-forks ranging from C 64 to C 2048 it was found that the hearing power by aerial conduction was markedly diminished at the upper end of the scale. The time during which tuning fork C 128 placed on the mastoid region was perceived was diminished by 14 seconds. Rinne's test was positive, and Weber's was lateralised to the opposite and sound ear. On using the catheter the Eustachian tube was found to be patent, and no change in the hearing was induced by inflation. She was slightly unsteady in her gait, stumbling to the right. There was no nystagmus. Under a course of strychnine in increasing doses and small doses of quinine sulphate the dizziness disappeared, but there was no improvement in the hearing power and but little diminution in the tinnitus was effected.

I had a similar case two years ago, the notes of which have been unfortunately lost. In both cases the deafness was regarded at first as trivial; in both cases irremedial damage had occurred to the internal ear. The exact nature of the pathological change is imperfectly understood at present. The treatment advised is to institute injections of pilocarpine as soon as possible after the onset of the condition; and, indeed, in the early recognition of the trouble and the prompt employment of pilocarpine lies the only hope of bringing about any improvement. It must at once be admitted that in the majority of cases, even in spite of the early use of this drug, no change in the deafness is procured. From the point of view of prognosis it is important to realise that in most cases the deafness arising from epidemic parotitis is of a serious nature and that the outlook is generally unfavourable.

Manchester.

NOTE ON A CASE OF FOREIGN BODY IN THE URINARY BLADDER.

BY H. W. WEBBER, M.S. LOND.,
SURGEON TO THE SOUTH DEVON AND EAST CORNWALL HOSPITAL.

A BOY, aged 14 years, was admitted to hospital on Dec. 17th, 1910, with the following history. On the 16th he sat on something sharp which penetrated the perineum; inquiry disclosed that a pointed piece of slate-pencil "found itself" point upwards on the seat, whether accidentally or otherwise was not clear. He was immediately taken to a medical man, who found the wound of entrance in the right ischio-rectal fossa, and under an anæsthetic enlarged the wound and searched for the foreign body. It could be felt, but could not be removed, and the boy was sent into the hospital. On admission a radiograph was taken, and the piece of pencil was seen to be lying transversely in the centre of the pelvis, the radiographist, Dr. W. Cheyne Wilson, expressing the opinion that it was in the cavity of the bladder. Accordingly, on the 19th the patient was anæsthetised and sounded, the foreign body being distinctly felt and heard. A median perineal cystotomy was performed and the pencil found wholly in the bladder, lying transversely and wedged by its ends. On extraction it was found to be a piece of well-sharpened slate-pencil, 2½ inches in length. Recovery was rapid.

Plymouth.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

CLINICAL SECTION.

Exhibition of Cases.

A MEETING of this section was held on Feb. 10th, Sir ALFRED PEARCE GOULD being in the chair.

Dr. H. D. ROLLESTON and Dr. C. H. S. TAYLOR showed a case of Mollities Ossium of 45 Years' Duration. The patient was a single woman, aged 58 years, for years a patient of Dr. H. Hollis in the Wellingborough Workhouse, who had been bedridden for 44 years on account of inability to walk and bony deformities which at first suggested rickets, but, as shown by the X rays, resembled those of mollities ossium. She was not strong as a child and did not begin to walk until three years of age, thus suggesting rickets. Between her fourth and fifth years the right knee began to bend outwards, but until 13 years of age she was able to walk, though clumsily. At the age of 11 she had whooping-cough, and at 13 "inflammation of the bowels." Her mother connected the osseous changes with the whooping-cough. At the age of 13 her strength began to fail, walking tired her, and she took to bed, where had remained since. She ached all over, and her teeth began to decay and were all gone when she was 37. Since the onset the bony deformity had gradually increased, but was most progressive at the time she first took to bed. There was no history

of any bony fracture, but she had pain in the left lower ribs at the age of 13. Menstruation began at 15 and stopped at 45. Pubic hair appeared before the age of 15. When held up—for she cannot stand—her height is 45 inches. The forehead is prominent, and the circumference of the head is 21½ inches. The rotation of the head is somewhat restricted and the sterno-mastoids are shortened and contracted. The distance from the suprasternal notch to the symphysis pubis is 14½ inches. The spinal column shows a continuous curve forwards in the dorsal and cervical regions, and there is scoliosis to the right in the dorsal region. The thorax shows lateral flattening, and the respiratory movements are mainly abdominal. There is considerable thickening in the outer curvature of each clavicle. The upper extremities are more deformed than the lower, and in that connexion it might be mentioned that she had never used crutches. The right upper extremity is more affected that the left. Each humerus shows an antero-external curvature which is most marked in the upper third; the muscles are stretched across the curves formed by the humeri. The movements at the shoulder-joints, especially the right, are somewhat restricted. The right forearm cannot be completely extended, but flexion is perfect. The right radius is twisted round the ulna at its lower end, supination and pronation are restricted. At the wrists extension is prevented, but flexion is good. The hands are fairly normal and can be used for sewing. There is no clubbing of the fingers. The patient cannot stand, and when supported rests on the toes; when the heels are placed on the ground she collapses towards the left. The thighs can be flexed at the hip to a right angle, but abduction and adduction are limited. The femurs, especially the right, are curved with the convexity forwards and slightly outwards. At the knee-joints the tibiæ form an obtuse angle with the femur, thus to some extent resembling Mr. Clinton T. Dent's case of "double displacement backwards of the tibiæ, with deformity of the long bones and arrested development." To the outer side of the right ligamentum patellæ there is what appears to be a loose body in the joint. The legs cannot be completely extended at the knees, but can be flexed fairly well. The tibiæ and fibulæ present a concavity to the right. The left ankle can be extended to a considerable degree, but cannot be flexed to more than a right angle; the movements of the right ankle are not quite so good. The patient did not show any evidence of infantilism and was normal mentally. The thyroid could not be felt. The urine contained a trace of albumin. The maximum systolic arterial blood pressure was 100 mm. Hg; the viscera were otherwise normal. She weighed 4 stones 11 pounds. On Feb. 6th, 1911, the blood count was as follows: red cells, 4,045,000 per cubic millimetre; white cells, 10,400 per cubic millimetre; hæmoglobin, 95 per cent.; colour index, 1·18; polymorphonuclear cells, 75 per cent.; lymphocytes, 23 per cent.; mononuclear cells, 2 per cent.; eosinophile and mast cells, none seen; red cells, normal. When first seen the condition was thought, on the bases of appearances and history, to show the results of late or recrudescent rickets. Dr. G. Allpress Simmons's X ray examination showed that the changes characteristic of rickets were absent and that the appearances pointed to mollities ossium. As they were uncertain about the occurrence of real arrest in mollities ossium, which such a long duration suggested, Dr. Rolleston and Dr. Taylor obtained the help of Mr. Dent, who kindly referred them to the account of his case already mentioned, and also to his unpublished Hunterian lecture at the Royal College of Surgeons of England in 1905. In his first case, published in 1882, a condition very similar to that in the present patient followed scarlet fever; in that paper he mentioned records and specimens of cure or arrest of mollities ossium. In his Hunterian lecture he explained the osseous softening as a result of the action of pathogenic organisms on the bones; he also referred to four or five cases under his observation in which softening of the skeleton, followed after a long interval by recovery of the rigidity of the bones—but in a condition of great deformity—apparently dated from an attack of whooping-cough. He quoted Siegert, who collected four cases of mollities ossium occurring at the ages of 10 years, 10 years, 13 years, and 16 years in children who had all had, but recovered from, rickets. The present case, which appeared to belong to that category, raised the interesting question if many or most of those cases formerly recorded as "late rickets" were really examples of osseous softening due to some microbic invasion of the skeleton and not to rickets in the strict sense. Siegert's cases and their case suggested that ordinary rickets, by damaging the skeleton, might favour the onset of mollities ossium.—Dr. ALLPRESS SIMMONS said that the bones generally were very translucent and light in texture; the shafts of the long bones were thin, the compact layer narrow, and the central canal disproportionately wide. The extremities were expanded in proportion to the shafts, very light in texture, and did not appear more opaque at the periphery as compared with the centre. The absence of the compact layer in some cases extended from the extremities for some distance along the shafts. The articular surfaces generally were clean cut and normal, and there was no lipping of the articular edges. The skull bones, as far as seen on the skiagram, were of normal thickness; the base of the skull appeared to project abnormally upwards into the cranial cavity. The jaws were edentulous except for an unerupted upper back tooth. The bodies of the vertebræ were vertically compressed, and the absence of definite light spaces between them suggested either that intervertebral fibro-cartilages were very thin or that they were infiltrated with lime salts or both. There was a slight forward convexity of the upper cervical spine; there were four lateral curves in the spine—namely, a convexity to the right, opposite first dorsal vertebræ; to the left, opposite seventh and eighth dorsal vertebræ; to the right, opposite the eleventh rib; and to the left in the lower lumbar region. The pelvis was compressed from above down opposite the sacral promontory and laterally upwards and inwards on both sides opposite the hip-joints, its cavity being thus converted into a sharp trefoil shape. The left ribs looked fairly normal. The fourth, fifth, sixth, and seventh right ribs had a sharp inward convexity at about mid-distance, with a boss at that point strongly suggestive of a repaired fracture. With regard to the left upper extremity, the clavicle was fairly normal, as was also the scapula. The humerus had a general slight inward convexity and had fusiform thickenings at about the junction of the upper and middle and middle and lower thirds, and at those points the ordinary extra thin compact layer became abnormally thick. The left radius and ulna were fairly normal in appearance. The right clavicle had a bossy expansion at about the junction of the mid and outer thirds. The right scapula had its axillary border abnormally thick, especially at a point about two-thirds down. The right humerus had a complicated U-shaped bend at about a junction of the mid and lower thirds, the general direction of which was concave, inwards and forwards. The compact layer was somewhat thicker on the convexity than on the concavity of the bend, and there was no sign at any of the bends-in or bosses on the bones of any sustaining buttresses in the concavities of the bends or of any threatening or old fractures, with the exception of the ribs mentioned already. The right radius and ulna had a U-shaped bend with the concavity inwards at about the mid-point. There was no marked deformity of the bones of the hands. The neck of the left femur was short and thick, and its upper surface was encroached upon by the expanded and bossy great trochanter; the lesser trochanter was upwardly and inwardly hooked. The shaft had a general outward convexity; the lower end of the shaft was sharply implanted into the expanded condylar portion, very much like the stalk of a flower. The double contour seen on the inner aspect of the left femur was caused by a muscle shadow and was not due to bone. The neck of the right femur was somewhat longer than that of the left, and its upper surface was encroached upon by the expanded and bossy great trochanter, as on the left side; the lesser trochanter also had an upward hook. There was a very well-marked inward bend at the junction of the head and neck. The shaft of the right femur had a double lateral curve, of which the upper was curved outwards, the centre of curvature being at about the junction of the upper and middle thirds, while the lower two-thirds of the bone had a general inward convexity. The left fibula was straight; the left tibia had a marked forward convexity with the centre of the curvature at about the junction of the mid- and lower thirds. The right tibia and fibula were fairly straight, having only a slight forward convexity. The ankle-joints and joints generally of the feet looked normal, the only marked deformity of bone being some flattening of the inferior surface of the right calcaneum. In summing up Dr. Simmons said

that the deformities generally suggested that the bones were slightly plastic, and they bent therefore in proportion to the stresses upon them. Thus, the long bones, which were subject to unequal stresses, showed most bending; the pelvis showed the effects of weight, while the hands and feet, which had few internal stresses, showed hardly any deformity; and the skull, which had practically no muscle pulls upon it, retained its shape except where its weight caused it to sag, as it were, around its base.

Dr. FREDERICK J. POYNTON showed a case of Imperfect Osteogenesis. The patient was a female, aged eight years, the second of four children; the other three had no signs of the condition. The parents were German Jews. The child had been under observation for six years. There was a history of soft bones at birth and fracture at 14 days. From that time there had been fractures of all the long bones at intervals, usually results of slight injuries. There had never been well-marked evidences of rickets or congenital syphilis. The child was bright and intelligent, but had never been able to walk. The course of the case was in accord with that usually found in the disease, but there were a few interesting points. One of those was that the disease seemed to be arrested some two years ago, and as the child was hopelessly crippled by the terrible distortion of the lower extremities both legs were put in excellent position by Mr. Kellock. Union followed, and the limbs were much improved. The present condition illustrated the ultimate result. He believed there was in that case, as in some others he had had under his care, an element of neglect by the parents, and no real pains were taken to keep the child's limbs from injury. A third point was the history of the development of the lateral bosses on the skull. Those followed a fall and commenced as large cephalhæmatomata. Prognathism was present. During the last 12 months the child had become thinner and there was slight pyrexia, which was apparently not infrequent in the disease. Many methods of treatment had been tried but without any obvious result. The salient deformities were: (1) bosses immediately about the ears on either side; (2) prognathism; (3) diminution in the vertical and widening in the lateral and antero-posterior diameters of the chest; (4) spinal lordosis; (5) left clavicle, old fracture; (6) right humerus, radius and ulna, old fractures; (7) right femur fractured and bent; (8) right fibula and tibia fractured, the child's foot rests on its inner side upon the bed; and (9) left femur, tibia, and fibula fractured and bent. All the long bones were exceedingly small.

Mr. A. J. WALTON showed a case of Imperfect Osteogenesis (?) for Mr. FRANK S. KIDD. The patient was a boy, aged 7, who was sent up to the London Hospital by Mr. G. Aldridge of Sheerness. At the age of three the boy fell and broke his right femur and was admitted to Chatham Hospital, where he remained seven and a half months. A large swelling developed at the site of the fracture and a diagnosis of sarcoma was made, but the father refused operation and took the boy to see Mr. W. H. Battle at St. Thomas's Hospital. The lower half of both legs became gradually bent into their present position. Two years ago the right forearm was broken by a fall. Two months ago the left upper arm was broken and set. When the splints were removed the present swelling was noted. The child had been bottled-fed and had had a patent barley. There were four children in the family; two were healthy. One other boy had a leg amputated for a similar condition and had had several fractures. The general condition was excellent; nothing abnormal was shown by the temperature chart. The urine was acid, of specific gravity 1020; there was no albumin, albumose, or sugar. The bones of the skull and face, teeth, clavicles (?), ribs, sternum, and vertebræ appeared to be healthy. The fontanelles were closed. There was no rickety rosary. The shape of the chest was normal. The left humerus had a fusiform swelling at the lower end of the bone of bony hardness. There was no pulsation or crackling to be felt in the swelling, which expanded the bone equally all round. The fracture had united. The maximum circumference of the swelling was 9½ inches. The skiagram showed a fracture in the middle of the shaft and a mass of irregularly trabeculated new bone between the fractured ends, under the periosteum of the shaft, and in the flexor muscles in front, but a large part of the swelling threw no bony shadow, though it felt of bony hardness. The extreme lower end of the humerus showed an area of central resorption of bone extending an inch up the shaft. The left forearm showed a bend in the middle of the radius and ulna. The skiagram seemed to indicate an old fracture at that level. The radius and ulna threw very faint shadows on the plate—evidence of deficient ossification. On the right forearm both bones were bent backwards, the radius about its middle, the ulna nearer its lower end. The skiagram suggested that a fracture had occurred at those levels, with deposit of periosteal callus. On the right femur there was a fusiform swelling extending the whole length of the bone, which was of bony consistency and did not pulsate. The maximum circumference was 11½ inches. The skiagram showed that the whole shaft of the bone had been expanded, and the trabeculæ had been rearranged as a wide-meshed cancellous tissue, as though the bone were filled with numerous cysts. The skiagram showed that the shaft of the right femur was bent outwards, and that at the lower end of the bone there was resorption of bony tissue with rearrangement of the trabeculæ as a wide-meshed, irregular network. That change was also to be seen in the lower epiphysis. The epiphyseal line appeared to be normal. In the upper end of the bone the normal lamellar arrangement was well shown. The appearance of the legs below the knees could be seen in the skiagrams. The tarsal bones showed a cyst-like arrangement of the trabeculæ similar to that seen in the right femur, and to a less extent in small patches in the following positions: the lower epiphysis of the right fibula, the upper end of the left tibia, the upper end of the right radius, the lower end of the left femur, parts of the pelvic bones, the glenoid portion of the left scapula, the upper ends of each humerus, and the bones around the left elbow-joint. The swellings had not altered in size during the three weeks the child had been under observation.

Dr. H. BATTY SHAW showed pictures of two cases with unusual Ulceration of the Skin. The first case showed icteric ulcers of the legs in hepato-splenomegaly. The patient was a man, aged 28 years, who had been icteric for 23 years. Urobilin was present in the urine, but no bile; the spleen especially and the liver were enlarged. He was liable to recurrent attacks of increased icterus, but of late years the attacks were less frequent. He had two ulcers, one on the outer malleolus of the right foot and one on the inner aspect of the left one; they began 15 years ago. The ulcers healed when the patient rested in bed, but broke down again on resuming ordinary life. The skin in the neighbourhood was discoloured reddish-purple. There was slight enlargement of the veins of the neighbourhood, but no varicosity. The case was shown before the Clinical Society in 1902; the icterus was in existence then. The second case showed icteric ulcers of the legs in pernicious anæmia. The patient was a woman, aged 42 years, who had had abdominal pain and vomiting for the last two years; during the same period she had been noticed to be yellow. The catamenia had always been irregular, and amenorrhœa had existed for two years. Amongst the past illnesses there were measles and whooping-cough, "inflammation of the lungs" ten years ago; quinsy five years ago. At the ages of 12 and 22 years she had had attacks of abdominal pain and vomiting similar to the present attack. She was only fairly well nourished and was very weakly. There were systolic murmurs at the apex beat of the heart and at the pulmonary cartilage; the pulse (90 to 100) was regular but of low tension (90 millimetres). There was much pyorrhœa alveolaris and the gums occasionally bled; the tongue, though pale, was otherwise normal. The liver reached two fingers' breadth below the costal margin; the splenic area of dulness was increased; the right kidney could be felt. During her stay in hospital the temperature rose from normal to 101·8° F. There was some constipation. The urine, examined seven times, always showed a faint cloud of albumin; it was pale and contained a slight excess of urobilin, no bile. The skin and conjunctivæ were lemon-tinted. The serum showed the presence of a slight amount of bile and of urobilin. The fundi oculorum were normal. A blood examination was carried out on two occasions and each time showed marked anisocytosis, poikilocytosis, and vacuolation of the red cells; megalocytes preponderated; no nucleated red cells were seen. An analysis on Jan. 18th last showed: total red cells, 935,000 per cubic millimetre; hæmoglobin, 30 per cent.;

colour index, 1·45; total white cells, 3850 per cubic millimetre; small lymphocytes, 56 per cent.; large lymphocytes, 25 per cent.; polymorphonuclear cells, 19 per cent. On the 25th it was as follows: total red cells, 1,225,000 per cubic millimetre; hæmoglobin, 30 per cent.; colour index, 1·10; total white cells, 6500 per cubic millimetre; small lymphocytes, 19 per cent.; large lymphocytes, 18 per cent.; hyaline cells, 4 per cent.; polymorphonuclear cells, 58 per cent.; and transitional cells, 1 per cent. During the last four days in the hospital the patient became mentally disturbed, developing delusions and becoming maniacal. She was allowed to go home. The development of the icteric ulcers began simultaneously six years ago as "blisters containing blood," which broke and left small ulcers. Those were present in the neighbourhood of each internal malleolus and were irregular in shape and shallow; the surrounding skin was purplish-red and a little indurated. The ulcers did not cause pain and appeared to be independent of any varicosity of the crural veins, which were normal in size and appearance. There was no history of an injury which might have caused them to develop, and there was no specific history.

Dr. BATTY SHAW also showed a case of syphilis, chyliform ascites, dropsy, and albuminuria. The patient was a man aged 28 years, who had contracted syphilis 18 months before admission to hospital, and was treated with pills containing mercury for over 12 months. Other than what appeared to have been an attack of "peritonitis" three years ago (which was recovered from in 14 days), there was no history of other antecedent illness. Two months ago his legs and abdomen began to swell; abdominal pains began, and the urine was much reduced in amount, was turbid, and was found to contain albumin; diarrhœa began at the same time and lasted three weeks. The abdominal pain was so severe as to prevent sleep. He was tapped by his local medical attendant, and on each occasion several pints of opalescent fluid were removed. On admission to hospital he was found to have ascites, and dropsy was present in the legs, sacrum, and lower back. That had persisted during his month's stay in the hospital. The temperature was over 99° F. for about 14 days and then become normal. The urine contained hyaline and granular casts; albumin was always present, varying from a total of 3 grammes to 32 grammes in the 24 hours (Esbach), the quantity of urine from 21 ounces to 100 ounces. He was tapped on two occasions and the ascitic fluid was opalescent each time and found to contain no free fat. Wassermann's reaction in the blood was positive, and an atypical spirochæta was found in the urine; the ascitic fluid did not reveal the spirochæta pallida, but gave a positive Wassermann's reaction. Half a gramme of salvarsan was injected subcutaneously on Jan. 12th and on the 14th the blood gave a negative Wassermann's reaction. Neither the ascites and dropsy nor albuminuria appeared to be influenced favourably or unfavourably by the injection, as the patient's condition on leaving the hospital was much the same as on admission. On the occasion of the present demonstration—i.e., one week after leaving the hospital—there was no trace of ascites, the liver edge could be felt below the right costal margin, and a fairly well-marked show of albumin was present in the urine.

Dr. J. D. ROLLESTON and Dr. N. S. MACNAUGHTAN communicated a report on a Tumour of the Upper Lip shown at the last meeting of the section. The tumour, which was removed by Mr. P. L. Daniel on Jan. 25th last, was found to consist of a mass of solid convoluted cords embedded in fatty and fibrous tissue, and to be attached by a pedicle to the right infra-orbital nerve, thus presenting macroscopically the appearance of a plexiform neuroma.

Dr. F. E. BATTEN showed a case of Progressive Spinal Muscular Atrophy of Infants (Werdnig-Hoffmann). The patient was a girl, aged 1 year and 9 months, the second of two children, the mother and father being healthy. The first child, a boy, died at the age of 8 months from bronchopneumonia. He was said to have been very loose in the limbs from the time of birth. The patient was born at the seventh month and was delicate for four months. She was said to kick about a good deal up to six months old, and appeared fat and healthy. When six months old she was vaccinated and cut her first tooth. She was said to be able to sit up at seven months, but was not encouraged to do so. At seven months she was able to talk a few words. Since she was 7 months old she had gradually become weaker and more helpless, and that weakness was said to have increased since October, 1910, and she could not now lift her head off the pillow. She was seen as an out-patient in June, 1910, by Dr. Gordon Holmes. She was then unable to sit up and had weakness of the back; she could make no attempt to stand. All the deep reflexes were absent. The Mongoloid appearance of the child was noticed. She was placed on thyroid half a gramme twice a day and improved, and was noted as "much improved" in October, 1910. The bowels had been constipated. She took food well, and as she lay in bed appeared quite healthy. The child was fairly nourished. She was happy and contented, said little words, and took notice of all that went on. She heard and saw well, and as far as was possible obeyed commands. The palpebral fissure was small and oval, and that gave her the appearance described as "Mongoloid," but there was no obliquity of the eyebrows outward, the skin was quite soft, the head of normal size, and the tongue smooth, so that there was nothing to suggest the child was a Mongolian idiot, though the term "Mongoloid" was justified. The incisors, canines, and first molar teeth were all present. The movements of the eyes, tongue, jaw, and lips were normal. The optic discs were normal. There was nothing wrong with the heart, lungs, or abdominal viscera. The chest was long and narrow, and on inspiration the intercostal spaces sank in, and it was clear that respiration was carried on by the diaphragm alone, which acted vigorously. The abdominal muscles were weak but not completely paralysed. If the child were placed in a sitting position the head fell forward, backward, or sideways, the neck muscles being powerless, the back became bent, and there was no power in the trunk muscles either to flex or to straighten the back. When placed flat on the bed, however, the spine was perfectly straight. The arms lay, as a rule, flexed at the side of the chest; the child could make little movements with the fingers and could grasp objects feebly. She could just flex the elbow and pronate, but not supinate the hand. The forearms were more or less fixed in a position of pronation. There was no power of movement in the shoulder muscles. The legs were almost powerless; there was practically no power of flexion of the hips or knees, but there was a little power in flexion and extension of the ankle and toes. The ham-strings were contracted so that the right leg could not be fully extended. The limbs were thin and the muscles were wasted, but that wasting was to a considerable extent covered up by the subcutaneous fat. The loss of tone in the muscles was very considerable, but the feet could not be flexed over the shoulders, nor could the arms be crossed behind the child's back, positions which were possible when the hypotonia was marked in a child. Sensation to ordinary stimuli appeared unimpaired all over the body. The knee-jerks, ankle-jerks, and all the deep reflexes were absent. The abdominal reflexes and plantar reflexes could not be obtained. The sphincter ani was normal. The electric reaction showed complete loss of response to faradism in all the paralysed muscles, but the muscles of the hand responded normally. The child bore a very strong current without evincing any signs of pain. In short, the child had an almost complete flaccid paralysis of all the muscles of the neck, trunk, and limbs, the muscles of the face, eyes, and diaphragm alone remaining normal.

Dr. WILFRED HARRIS considered that Dr. Batten had proved his case, and Dr. POYNTON related some cases in which the arms were completely paralysed; the fingers and toes, however, were just able to be moved.

SECTION OF ANÆSTHETICS.

Death under Chloroform.—Anæsthesia in Post-pharyngeal Abscess.—Reflex Effects from Stimulation of the Nasal Mucous Membrane during Anæsthesia.—Cheyne-Stokes Respiration during Anæsthesia.

A MEETING of this section was held on Feb. 3rd, Dr. W. J. MCCARDIE, the President, being in the chair.

The PRESIDENT reported a case of Death under Chloroform due to inspiration of gummatous material. The patient, a man aged 43 years, was to be operated on for ulcer of the scrotum and hernia of the testis. The house surgeon administered chloroform on a Schimmelbusch mask, this anæsthetic being selected on account of the presence of bronchitis. There was slight struggling during induction. When the patient

was moved on to the operating table severe cyanosis and embarrassed respiration suddenly occurred, respiration shortly stopping entirely. The pulse was good when the respiratory failure occurred. Restorative measures were of no avail. Post mortem, a broken-down gumma was found at the bifurcation of the trachea, which had evidently burst during the anæsthesia.—Dr. BARTON questioned whether in view of the existing bronchitis the case should have been operated on at all.—Mr. C. CARTER BRAINE asked whether artificial respiration had been performed with the patient lying on his side.

Mr. R. GILL read a short paper on Anæsthesia in Post-pharyngeal Abscess. He described a case of a child, aged 3 months, with difficulty in breathing, who was to be operated on for adenoids. Light anæsthesia was induced with chloroform. On opening the mouth a swelling was seen bulging forward from the back of the pharynx which produced further obstruction the more the mouth was opened. The mass was incised and a large quantity of matter rapidly discharged, filling mouth and nose. The child, who had become dusky, was suspended head downwards. After the matter had been rapidly swabbed out, the tongue was hooked forward by passing the finger along the dorsum. The patient recovered. Great stress was laid on the importance in this case of the inverted position. Mr. Gill also reported a case in which during an operation on the chest there was sudden hæmorrhage from the nose and mouth, producing symptoms of suffocation. The patient's head was lowered over the end of the operating table, and when the flow of blood had diminished the anæsthetist drew the base of the tongue forward with his finger, compressing meanwhile the chest with his elbows.—Mr. H. BELLAMY GARDNER considered that it would be better to operate on cases of post-pharyngeal abscess without an anæsthetic. The operation was generally trivial.

Dr. J. BLUMFELD read a short paper on Reflex Effects from Stimulation of the Nasal Mucous Membrane during Anæsthesia. He described a case of heart failure after the injection of adrenalin. The patient who was to be operated on for deviated septum was anæsthetised with C E. mixture. In seven minutes he was declared ready, the colour was good, and corneal reflex present. He was placed in a sitting posture and as there was slight coughing more anæsthetic was administered. Six minims of a 1 in 4000 solution of adrenalin were then injected into the nasal mucous membrane. Immediately there was extreme pallor, dilated pupil, and the usual symptoms of severe cardiac depression. These passed off and the operation was performed without further trouble, chloroform being administered by Junker's apparatus.—Dr. A. L. FLEMMING had seen faintness caused by adrenalin, but not by weak solutions; he considered 1 in 4000 too strong.—Mr. BRAINE recorded a case in which sudden death had followed the injection of adrenalin into the tonsil in the case of a girl who was to undergo tonsillotomy.—Dr. R. J. PROBYN-WILLIAMS questioned whether the change to the sitting posture might not have been a factor in the depression produced.—Dr. J. F. W. SILK thought that the drug was the chief cause; he had seen faintness produced by plugs of cocaine and eucaine in the nose.—Mr. BELLAMY GARDNER believed that adrenalin injected into the tissues caused shock, but when it was *applied* only it did not do so. He did not believe in the sitting posture as a causal factor.—Mr. H. S. BARWELL said that he was the operator in the case described by Dr. Blumfeld. The shock did not appear till some time after the sitting posture had been assumed, and he considered that it was due to the adrenalin. He found that adrenalin had a much more depressing effect on anæsthetised than on conscious persons, and for the latter he often used large doses with impunity. He had never seen a case of shock under adrenalin when the anæsthesia was induced by ether.—Dr. F. W. HEWITT considered that the low blood pressure under chloroform was an important factor in the circulatory depression produced by adrenalin, and explained why it was that such depression did not occur in etherised or conscious patients.—The PRESIDENT stated that he also had had cases of circulatory depression due to adrenalin. He advised interruption of the administration of the anæsthetic for a time during the injection of adrenalin.—Mr. HARVEY HILLIARD stated that he had seen cases of cardiac inhibition when plugging the nostrils under anæsthesia, but not when the plugging was performed previous to induction.

Dr. C. H. M. HUGHES made a short communication on Cheyne-Stokes Respiration during Anæsthesia. He described the case of a man, aged 52 years, who underwent gastrostomy for malignant disease of the larynx after tracheotomy. Chloroform was administered on lint over the tracheotomy opening and followed by C.E. After about four minutes respiration stopped, the pupils being small, and corneal reflex present. After 30 seconds breathing was resumed. Throughout the operation, which lasted about 45 minutes, there occurred about every five to ten minutes periods of apnœa of 30 to 40 seconds, alternating with regular breathing of good volume. There was no straining. After the anæsthesia was stopped the condition gradually passed off. —Dr. BARTON had seen at least half a dozen cases of Cheyne-Stokes breathing under anæsthesia. They were all either under chloroform or C.E.—The PRESIDENT had found six cases in his records; they were all but one old men with rigid chests. The one exception was a man aged 48 years, who was operated on for cerebral tumour under chloroform and C.E.

Mr. F. COLEMAN showed a new form of Stopcock for Gas and Air Administration.

LARYNGOLOGICAL SECTION.

Exhibition of Cases and Specimens.

A MEETING of this section was held on Feb. 3rd, Dr. P. WATSON-WILLIAMS, the President, being in the chair.

The following cases and specimens were shown:—

Dr. G. WILLIAM HILL, in conjunction with Dr. G. HERSCHELL, demonstrated on the living subject a combined direct and indirect method of Œsophago-gastroscopy. An excellent view was obtained of the stomach and lower part of the œsophagus, and the great value of this method was pointed out. The stomach was dilated with air and previously washed out by a special instrument.

Mr. FRANK A. ROSE and Mr. CECIL I. GRAHAM: Cases of Tuberculous Tonsillitis, this in Mr. Graham's case being associated with tuberculous laryngitis. An interesting discussion resulted with reference to the frequency of primary tuberculous disease of the tonsils.

Mr. HERBERT TILLEY: Plaster casts of an Unusual Malformation of the Upper Jaw. There was a markedly V-shaped condition of the hard palate, while the alveolar borders of the upper jaw were hypertrophied. There were also well-marked alar collapse and much septal irregularity. Pyorrhœa alveolaris was also present.

Dr. L. H. PEGLER: Cases of Malignant Disease of the Larynx and extensive Ulceration of the Pharynx and Tonsils, considered malignant. Also a case of Tuberculous Disease of the Vocal Cords, with secondary tuberculous infection of an adenoid growth in the naso-pharynx. The patient was a furrier. Both cords were thin and ulcerated; the right cord was also longitudinally split. They approximated badly, causing complete aphonia, but there was neither pallor nor œdema. There were no lung signs, sweating, or loss of flesh. The general health was excellent. Since the first onset a small mass of adenoids had become ulcerated. Sections of this under the microscope displayed giant cell systems, and though staining of tubercle bacilli had not been successful, matter obtained thence and injected into guinea-pigs infected the glands and viscera. A preparation from one animal was shown, and a section of one of the guinea-pig's glands showing tubercle bacilli. Von Pirquet's reaction was negative in this patient.

Mr. E. A. PETERS: Malignant Disease of a Tonsil, with enlarged glands in the neck, now undergoing treatment by radium.

Dr. J. DONELAN: Swelling at the Junction of the Right Vocal Cord and Apex of the Vocal Process in a professional singer aged 52 years.

Dr. DAN MCKENZIE: Papilloma of the Larynx in a child. Obstruction to breathing had been so great that tracheotomy had to be performed six months ago; subsequently several papillomata were removed by the direct method.

Mr. G. W. BADGEROW: A case of Lingual Thyroid in a female aged 17 years. There was a hemispherical swelling over the base of the tongue, which was hard to the feel.—Mr. H BETHAM ROBINSON detected enlarged glands in the neck, and thought the case might possibly turn out to be one of lymphoma or lympho-sarcoma.

Dr. G. C. CATHCART: A case of Aphonia (recurrent) in a woman aged 36 years. The patient had been in the Mount

Vernon Hospital. On laryngological examination it was seen that the mucous membrane over the arytenoids and inter-arytenoid space was swollen and that the cords did not meet properly.—Dr. W. JOBSON HORNE pointed out the probability of certain cases of aphonia supposed to be hysterical being really tuberculous.

Mr. SOMERVILLE HASTINGS: A case of Ulceration of the Left Tonsil in a man aged 56 years. The ulcer had lasted for over two months with very little alteration. It extended to the anterior pillar of the fauces, and presented a curious dead-white appearance. There was no history of syphilis, but pyorrhœa alveolaris was present. Klebs-Löffler bacilli could not be found, and the microscopical appearances of a piece removed did not favour malignancy. No glands could be felt.—Dr. W. H. KELSON pointed out how much the dead-white appearance resembled that seen in certain malignant growths of the larynx.

Mr. NORMAN PATTERSON: 1. Primary Sore in the Vestibule of the Nose in a female patient aged 38 years. The lesion was an indurated area which gradually increased in size, and was accompanied by some enlargement of the glands in the submaxillary region. There had been a great deal of pain, extending on to the face. Spirochætæ had been found and a positive Wassermann reaction obtained. 2. Epithelioma of the Epiglottis in a man aged 40 years. The patient had noticed pain on swallowing for the last two months, and shooting from the tip of the great cornu of the hyoid bone on the left side towards the back of the ear. He complained of a great tendency for the saliva to accumulate in the throat. Some glands were felt, especially on the left side, which might perhaps be accounted for by the septic condition of the teeth.

The PRESIDENT: A man suffering from Stricture of the Œsophagus situated 11½ inches from the incisor teeth. It was considered to be malignant, and was shown to elicit views as to the suitability of treatment by radium or otherwise.

Dr. H. W. FITZGERALD POWELL: A man, aged 48 years, with history of difficulty in breathing of six months' duration. Examination showed a large mass of growth involving the left side of the larynx, filling up the cavity of that organ, involving the tongue and aryepiglottic folds. There was a history of syphilis, but the Wassermann reaction was negative.

Dr. H. J. DAVIS: A man, aged 71 years, whose upper jaw had been excised for Malignant Disease of the Antrum, following polypi and antral empyema. Some œdema of the lower eyelid still remained.

Dr. HILL: Tuberculous Disease of the Nose in a child. There had also been disease in the superior maxillary bone on the left side.

OPHTHALMOLOGICAL SOCIETY.

Histo-pathology of Papillœdema.—Exhibition of Cases.

A MEETING of this society was held on Feb. 9th, Mr. GUSTAVUS HARTRIDGE, Vice-President, being in the chair.

Mr. LESLIE J. PATON and Dr. GORDON M. HOLMES communicated a paper on Histo-pathology of Papillœdema. It was a preliminary account of their investigations into the pathology of papillœdema. Their work was based on the histological examination of 60 eyes, all from cases in the National Hospital for the Paralysed and Epileptic, Queen-square, Bloomsbury. The conclusions they formed from these cases were that the so-called "optic neuritis" was a simple congestive œdema of the disc, and was not in any way an inflammatory phenomenon. Inflammation when it did occur was slight in amount, limited in its distribution and secondary in its nature. The hæmorrhages that occurred were in the main congestive, but partly due to stretching and rupture of small vessels by the swelling disc. The larger white patches that occurred on or near the disc were due to degeneration of the nerve fibres. This degeneration showed itself first by varicosities appearing on the nerve fibres, which later swelled up into elliptical or globular bodies known as "cytoid bodies." These might lose their connexion with the nerve fibre from which they developed, and consequently undergo fatty degeneration. The smaller bright-white spots arranged in fan-shaped fashion between the disc and macula were due to œdema raising the membrana limitans interna into vesicles. The changes produced as the disc became atrophic were, (*a*) occlusion of the smaller vessels by endothelial proliferation and adventitial thickening in the walls of the larger vessels; (*b*) a glial proliferation which varied in intensity with the degree of atrophy; and (*c*) proliferation in the mesoblastic tissues round the blood-vessels and without, forming the lamina cribrosa. Mr. Paton and Dr. Holmes considered that the hypothesis which best explained all the known facts of tumour papillœdema was that, owing to the rise of intracranial pressure, there was a communicated rise of pressure in the nerve sheath. The portion of the central vein lying in the nerve sheath behaved, in response to this raised pressure, like a cerebral vein, and the blood pressure in it was consequently raised to the same extent. This produced a congestion of all the connexions of the central vein distal from that point. In addition to causing venous congestion the raised intra-vaginal tension obstructed the normal drainage of lymph from the disc and nerve and caused a lymph stasis, so that there was both an increased output and a diminished drainage. The tissue tension in the nerve itself was raised, so there was no marked difference between intravenous pressure and tissue pressure until the lamina cribrosa was reached within the range of the relatively lower, though normal, intra-ocular tension. The paper was illustrated by a number of lantern slides.—Mr. S. JOHNSON TAYLOR asked whether Mr. Paton and Dr. Holmes had seen any case early enough to confirm what was clinically found—viz., that the earliest evidence of optic neuritis was in the upper and inner part of the disc. He had under his care at present a case which confirmed that.—Dr. JAMES TAYLOR spoke appreciatively of the extensive nature of the research. It occurred to him that it might lead to a revival of the old method of tapping the optic nerve from the front with the view of relieving the œdema. If so, that would cause one to view more hopefully cases of extreme papillœdema.—Dr. HOLMES, in reply to Dr. Taylor, said the method mentioned would only be feasible if a fistula were left in the sheath to allow the cerebro-spinal fluid to drain away.—Mr. PATON replied that the papillœdema nearly always commenced at the upper border first and later in the lower. But when only the upper border showed œdema there was shrinkage of the tissue. The disc looked normal, but there was evidence of slight œdema commencing at its upper edge.

Mr. E. W. BREWERTON showed a case of Symmetrical Marginal Corneal Degeneration.

Mr. H. B. GRIMSDALE showed a patient with Irideremia and Deformity of Lens.

Mr. C. HIGGENS showed a patient on whom he performed his operation of Dacryocysto-rhinostomy, and described the procedure.

Mr. E. TREACHER COLLINS exhibited a case of Widespread Exudation internal to the choroid and beneath the retinal vessels, giving rise to a white reflex.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.

The Sanitary Service of the Territorial Force.

A MEETING of this society was held on Feb. 10th, Dr. W. G. WILLOUGHBY, the President, being in the chair.

Lieutenant-Colonel C. H. MELVILLE, R.A.M.C., professor of hygiene, Royal Army Medical College, London, introduced a discussion on the Sanitary Service of the Territorial Force. He dealt mainly with the duties of those officers of the Territorial sanitary service whose services would be available on mobilisation, or as they are sometimes termed, officers on the *à la suite* list, of whom 106 had been gazetted. He touched briefly, however, on some of the duties of the divisional sanitary officer, which were very extensive and brought him into connexion with the life of the soldier at all points, except those connected with actual fighting. Thus he had to exercise a general supervision over the sanitary condition of all places occupied by the troops of the command to which he was attached, watch the health conditions of all camps, &c., and investigate the cause of any undue prevalence of disease among the troops or the inhabitants. He had to advise on the selection from a sanitary point of view of sites for camps

and bivouacs, and on questions relating to the sanitary conditions of towns, villages, or buildings about to be occupied. He must advise regarding the purification and distribution of water for drinking purposes, with respect to latrines and urinals, the disposal of refuse, the burial of the dead, and the disposal of the carcasses of animals. The duties of *à la suite* officers referred to the habitations of troops whether in camps or in buildings, to water-supplies, to roads, to the prevalence of infectious diseases in various localities, and such-like matters. The quartermaster-general's department would require advice as to the suitability from a sanitary point of view of buildings to be used as temporary barracks and of camping grounds. The information required of the sanitary officers was given in some detail by Colonel Melville, who then referred to the necessity for describing the water-supply of a district as a whole. For this purpose each stream or river should be traced from its source, till it passed into some other district. The presence of any dangerous source of pollution should be noted, with its exact position and distance from the water. This collection of information would fill a very serious gap in our knowledge, and any officer on the *à la suite* list who should set about collecting it as regards his own district, and more especially along the main lines of communication, would be doing a useful piece of work and rendering the State good service. Other duties of the sanitary officers would include the cleaning up of camping grounds after they had been utilised by troops passing hurriedly through a district, and maybe the cleaning up of a battle-field. Colonel Melville emphasised the necessity of every sanitary officer at once making himself familiar with his duties and at once setting about the collection of information which would be available when the emergency arose. Every officer, he said, who promised that his services would be available on mobilisation was bound by every rule to see that his services were worth having on mobilisation.

In the course of the discussion the PRESIDENT pointed out that Colonel Melville's paper was not by any means confined in interest to the officers in the *à la suite* service, but that it concerned all medical officers of health.

Mr. F. E. FREMANTLE considered that the scheme of duties presented was not at all complete. In the event of a war in this country the Territorial Forces would have to depend, so far as sanitation was concerned, upon the civil sanitary administration, and this should be brought into closer touch with the military sanitary service.

Mr. E. SERGEANT and Dr. J. R. KAYE emphasised the importance of a foreknowledge of suitable camping grounds and of water-supplies. Dr. Kaye also pointed out that the art of hygiene was as important in warfare as the art of strategy, and that disease was the master in every campaign.

Dr. P. CALDWELL SMITH referred to the desirability of the members of the *à la suite* service obtaining a knowledge of camp life and of military sanitation.

Mr. H. BEALE COLLINS and Mr. HERBERT JONES considered that the whole country should be mapped out into areas which should be allotted to particular members of the service.

Professor W. R. SMITH agreed that it was of the greatest importance for the *à la suite* officers to become familiar with military life, and that they look at their work through military spectacles.

Dr. W. BUTLER, Dr. H. COOPER PATTIN, and Mr. J. TUBB-THOMAS also took part in the discussion.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Acute Anterior Poliomyelitis.—The Medical Examination of Employees.—Exhibition of Cases.

A MEETING of this society was held on Feb. 1st, Dr. BYROM BRAMWELL, the President, being in the chair.

Dr. EDWIN BRAMWELL and Dr. D. W. CURRIE read a paper on Acute Anterior Poliomyelitis. No disease had occupied such a prominent place in neurological literature during the past year or two. Epidemics had occurred in many parts of Europe and America during the last hemi-decade. A localised epidemic was described. The character of the symptoms was instructive. The epidemic consisted of five cases. Five of 12 children living in a farmstead which consisted of four dwelling-houses were affected. Three of four children in one house suffered and both children in the adjacent house. Fever, headache, pain at the back of the neck, neck rigidity, and head retraction were conspicuous features. Vomiting occurred in two cases. In one of the first cases pain in the lower limbs was so severe as to suggest acute rheumatism. All the patients recovered. Two presented paralysis of the limbs with abolition of the tendon jerks and other features characteristic of typical poliomyelitis. In one case a temporary facial paralysis and in another a strabismus were the only paralytic symptoms. The fifth patient recovered without manifesting definite paralysis at any period. The circumstance that the five patients were taken ill within a few days of one another (Sept. 12th to 24th), together with the similar symptoms of onset, makes it certain that all the cases were due to the same causal agent. Three of the cases might well have escaped recognition had they been met with singly. The number of cases with cerebral palsies and in which complete recovery had taken place had been a generally recognised feature in recent epidemics. This epidemic was extremely instructive in relation to the incubation period of the disease. The farmstead in which the patients lived occupied a somewhat isolated situation, and the individual cases developed one after the other. The two families might be conveniently designated A and B and the children Aa, Ab, Ba, Bb, Bc, and Bd. Ba, Bb, and Bc slept in the same bed, while Bd slept in a cradle in another room together with Mr. and Mrs. B. Bb first manifested symptoms on Sept. 12th, Ba on Sept. 16th, and Bd on Sept. 18th, while Bc escaped. Ba was no doubt infected by Bb. Bd might have been infected either by Bb or Ba, or the infection might conceivably have been carried by Mrs. or Mr. B. In this connexion it was interesting to note that on and after Sept. 14th Bb slept in the same room as Bd. Ab was taken ill on Sept. 20th, Aa on Sept. 24th. Aa was no doubt infected by Ab, for they slept in the same bed. It would seem almost certain that Ab must have been infected by one of the B's. Both Mrs. A and Mrs. B positively stated that the A children had not been in the B's house, or the B's in the A's house after Bb was taken ill. On Sept. 16th, and again on the 18th and 19th, Mrs. A visited the B's, and on each of the two dates last mentioned she remained in the house for several hours helping to nurse Bd. These data would seem to indicate that the incubation period in this particular epidemic was four days, or not longer than four days, while they suggest that the infection might be carried by a third person. The comparative frequency of poliomyelitis during the past autumn was next referred to. Statistics for several years from the Edinburgh Royal Hospital for Sick Children and other hospitals were presented, and numerous opinions quoted from different centres in England and Scotland in order to demonstrate the truth of this assertion. It was further mentioned that two or three local epidemics had occurred recently in various parts of England. So far as Dr. Bramwell and Dr. Currie could ascertain no abnormal increase in frequency of the disease, curiously enough, had been observed in London. Finally, the possibility of some sort of relationship between poliomyelitis and epidemic cerebro-spinal meningitis was referred to. Dr. Bramwell and Dr. Currie would have it clearly understood that they fully realised the existence of certain pronounced points of difference, yet they were of opinion that the possibility of some association between the two diseases was worthy of consideration. Both diseases occurred in a sporadic and epidemic form, both affected children more especially, in both the degree of contagion appeared to be much the same, and in both the initial symptoms were very similar. The most striking point, however, was the circumstance that a few years ago epidemics of cerebro-spinal meningitis, previously of great rarity, were met with in many localities throughout Europe and America, while two or three years later epidemics of poliomyelitis, practically unknown hitherto, were of widespread occurrence.

—Dr. G. H. MELVILLE DUNLOP said that he fully endorsed the fact that recently there had been a severe and widespread epidemic of poliomyelitis in the country, and his own experience had borne this out. Within the last six months over 40 cases had been under treatment in the Royal Hospital for Sick Children. The average usual number in his own

ward was one or two, as contrasted with 16 at present, and he had noted the same increase in private practice. He had remarked on the very severe and prolonged character of the premonitory symptoms and on the difficulty, or even impossibility, of arriving at an early diagnosis, as, for example, the child lying comatose for ten days before paralysis showed itself; in other cases there was wild delirium preceded by convulsions, while in still others the symptoms were those of tuberculous meningitis. He referred to the widespread nature of the paralysis in many cases and to others in which bulbar symptoms were present. In two cases he had observed paralysis of the face as well as paralysis of the limbs. From 70 to 80 per cent. of the cases occurred within the first three years of life, but he had been struck with the fact that in the present epidemic the average age was much higher—viz., from 4 to 11 years. The prognosis was, however, very much more satisfactory than what one had been accustomed to give formerly, and he had noted complete recovery taking place within four months even in cases of complete paralysis. In the great majority of cases the prognosis was entirely favourable.—Dr. J. H. HARVEY PIRIE said that he had seen the cases described along with Dr. Currie. Some were very interesting as diagnosis could not have been made unless for the epidemic nature. If cases should recur this summer special attention should be paid to early diagnosis with a view to early isolation. The disease began as a meningitis and this accounted for the headache, rigidity, and fever as early symptoms. An examination of the cerebro-spinal fluid was useful in the prodromal period as it showed increased pressure and excess of mononuclear cells, which signs disappeared when paralysis came on. He thought that the use of urotropine was beneficial in such cases as formalin was rendered free in the cerebro-spinal fluid.—The PRESIDENT alluded to the fact that the symptoms in the epidemic form of the disease differed from those observed in sporadic cases. In the epidemic under discussion the cases were so isolated that they allowed conclusions to be drawn very clearly. Fixing the incubation period at or about four days seemed an important point. It was unfortunate that bacteriology afforded no help in the diagnosis of poliomyelitis while it revealed the organism in cerebro-spinal meningitis.—Dr. A. DINGWALL FORDYCE, Dr. JOHN THOMSON, and Dr. W. T. RITCHIE took part in the discussion.

Dr. H. G. LANGWILL read a paper on the Medical Examination of Employees. He said that the practice of making a medical inspection of individuals with a view to the early detection of actual disease or a liability thereto was becoming of recent years more widespread. The need for a wider inspection of workmen in all kinds of employment had been borne in upon employers in view of the recent Workmen's Compensation Acts, and more especially the wide interpretations which had been given in various courts to the term "accident." It was not to be wondered at that shipowners had found it still more urgently necessary for their employees to be medically examined because of (1) the essentially hazardous nature of much of their work; (2) the shipowner was liable for accidents not only when their employees were at their work but also when they were asleep (thus, if a seaman were injured while in his bunk (e.g., by a collision) he fell to be compensated, the work being a "whole-time" employment); (3) owing to the absence in the great majority of seagoing vessels of any qualified medical aid a slight injury might have serious or fatal results; and (4) under a recent Merchant Shipping Act the owners were liable for the expense of treatment of illness in any member of the crew, and if he had been left ashore for treatment they were liable for his expenses until he was landed in the United Kingdom. The detection of any probable causes of disability before the man joined his ship was of considerable importance. No substitute for a sick man could be got at sea, and the vessel had to be worked by those who were fit. This system of inspection was instituted in 1907 by the Shipping Federation, who under the guidance of skilled medical men drew up a uniform system of medical examination for use in all ports, a method of recording the results and a schedule of the various diseases or surgical affections to be reported on. Dr. Langwill held strongly that there was not the same need for a high standard of physical fitness in the case of men making short voyages as contrasted with those taking voyages of weeks' or months' duration. Medical examiners were appointed for each port and their duties were: (1) to medically inspect each member of the crew before "signing on"; and (2) to examine employees who alleged that they had sustained injuries at their work. Dr. Langwill emphasised that it was only an *inspection* or survey of the men that was made and not a medical examination of a patient in the ordinary sense. It was thus different from the medical examination of entrants to the Post-office, Customs, &c.—no family history was asked nor was the urine examined. The main points to which attention was directed were: (1) Eyesight; (2) hernia; (3) venereal diseases; (4) varicose veins; (5) ulcers or previous injuries; (6) heart and blood-vessels; and (7) giddiness and fits. The original instructions stated that "only officers and deck hands were to be tested for form and colour tests"; firemen and stewards were exempted, but defective eyesight in any employee on board ship might result in serious financial consequences for the owner owing to permanent blindness resulting from slight injury or disease in a patient unable to secure skilled treatment at the proper time. Thus from a compensation point of view a good standard of eyesight was necessary. Dr. Langwill had found it very difficult to test firemen by the ordinary types, as owing to the glare of the furnaces they cannot see letters clearly at a distance. Personally, he was inclined to advise the rejection of a fireman who had practically only one eye available for distant vision, as the risk of accident to this eye had always to be borne in mind. As regarded officers and deck hands, the Board of Trade did not at present require the eyes to be tested separately, and the standard at present required was that more than half the letters in the fifth line of the test Snellen's sheets must be read correctly at 16 feet. Unless there was apparent inequality of visual power in the two eyes he did not test the eyes separately. Fairly frequently it occurred that the seaman who was very defective in making out the test-types was yet said by his officers "to be very good at picking up the land or lights at sea." Dr. Langwill supposed that the man's *light sense* was better than his *form vision*, and that it was the *light sense* which was relied upon greatly in "look-out" duty. In testing *colour vision* wools were used, but instead of asking the candidate to match certain colours Dr. Langwill's practice was to show him a red or green skein, and on his naming it correctly to ask him to pick out some more reds or greens while the examiner concealed the original skein. What was required of the seaman was to pick up a red or a green light *individually* at sea and not by comparison. Coloured lights took on different tints in foggy or misty atmospheres, and the most practical method of testing colour vision would be to try the man at sea with actual lights under various weather conditions. A large proportion of Dr. Langwill's defective colour candidates came from Orkney and Shetland. Hernia occasioned the rejection of a goodly proportion of men. When the hernia was small and kept up by a well-fitting truss the man was usually passed, but Dr. Langwill had doubts as to the advisability of this, as the truss was not always worn and was not always effective in severe straining or might be broken. He asked if a man who had had a "radical cure" performed was really no more likely to develop hernia again than one who had never been ruptured. He felt inclined to order a man who had been radically cured at least to possess a truss for use if bulging should show itself. Was the risk of strangulation as great in the case of old-standing hernias as in those newly developed? Should a man with a small umbilical hernia be rejected? Did strangulation occur at all often in the hernial protrusions at abdominal scars? Venereal diseases did not bulk so largely as might have been expected. Out of 930 men examined in 1910 only seven were rejected from this cause. It was difficult to know how to act as regarded varicose veins. Unless they were very pronounced the man was generally passed on condition that he wore an elastic stocking. Heart and blood-vessels:—As regarded valvular disease, if compensation was well established the man was usually passed. Unless the voyage was long, when he was advised to seek another ship, aneurysm formed one of the most difficult problems, and especially after the recent decision of the House of Lords, and the detection of intra-thoracic aneurysm was very difficult. As to the fitness of an employee to resume work after an illness, that was not always easy to answer. Of two men sent to him suffering from "cardiac debility" he found that one had suffered from recurring attacks of dyspnœa and debility for 15 years, while the other gave a

history of marked anginal attacks of recent date after exertion and having a very high tension pulse. Dr. Langwill advised the employers as regarded the latter man that they ran undoubted risk from his death occurring suddenly. As regarded examination of employees *after injuries* last year he reported on upward of 60 such cases. A very real difficulty was that of getting *after-treatment* of the patient carried out after the man had ceased attending hospital; thus joints might become permanently stiff and the prospect of resuming work was remote in such circumstances. Until the law allowed part of the compensation benefits to be expended by the employer in getting the man fitted for his work, the only way seemed to be to keep the man under treatment by the house surgeon. Another trouble was that the health of the man might suffer as a result of the endeavour to live on half pay compensation money. A third difficulty was that of starting seamen after an injury with any kind of light work and unless he were "able-bodied" he might be a source of compensation risk to the employers.—Professor F. M. CAIRD thought that in every case of hernia in seafaring men a radical cure should be performed, as in the majority of cases a perfectly good result was obtained, and in those candidates for the army and navy upon whom he had operated there had been no relapse. Still, each man so treated should possess a truss in case of accidents. He thought that the older-standing hernias with a large ring were less likely to become strangulated than those with a small opening.—Dr. D. CHALMERS WATSON, Dr. W. MACRAE TAYLOR, Dr. JAMES RITCHIE, Mr. ALEXANDER MILES, and the PRESIDENT took part in the discussion.

Professor CAIRD showed (1) Carcinoma of the Rectum removed by the abdomino-sacral method. The patient was a woman, aged 57 years, who had had symptoms of rectal carcinoma for four months. Local examination revealed a large tumour encircling the bowel just within reach of the finger. An operation was performed on Dec. 20th, 1910. The abdomen was explored and the tumour found at the floor of the pouch of Douglas; the peritoneum round it was divided. A parasacral incision was made and the lower end of the sacrum divided; delivery of the tumour was accomplished through the sacral wound; it was resected, and end-to-end suture of the bowel was performed.

Professor H. ALEXIS THOMSON showed a boy, aged 13 years, who had been run over by a motor-car on Oct. 27th, 1910, and admitted to the hospital unconscious. Blood was present in the vomit and in the urine. An apparently complete recovery took place. He was, however, readmitted on Nov. 29th on account of sickness and with a swollen, tense abdomen due to an accumulation in the lesser sac. On the following day the abdomen was slack, the fluid having escaped into the greater sac. Incision and drainage of both sacs was performed, the fluid in the sacs being quite clear. He was discharged, but again readmitted on Jan. 20th, 1911, with another tense accumulation in the lesser sac. Formerly such cases were termed pancreatic cysts; they were probably traumatic effusions due to a tearing of the peritoneum.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

Pathology of the Embryo in Relation to Abortion.—Congenital Stenosis of the Pylorus in an Infant.—Exhibition of Specimens.

A MEETING of this society was held on Jan. 25th, Dr. A. W. RUSSELL, the President, being in the chair.

Dr. JOHN LINDSAY read a paper on the Pathology of the Embryo in Relation to Abortion. He showed photomicrographs of five embryos of the first and second months, all of them malformed and four of them dwarfed. There was demonstrated from the sections cell proliferation in the mesoderm such that the tissue did not grow, but its meshes became filled with small round cells which also invaded the hollow organs and body cavities, the specialised tissue cells disappearing before the invasion. The whole of some of the embryos and parts of others showed only undifferentiated round cells in various stages of degeneration. The evidence was clear that the degenerative changes were necrobiotic and not due to post-mortem maceration. The ectoderm was intact and well preserved in all the embryos. The pathology being that of malnutrition, the causation was referred to maternal blood states, and it was suggested that similar changes leading to the dissolution of minute embryos rather than the maceration of embryos of a size conforming to the gestation period accounted for the empty decidual sacs which were frequent in abortions of the second month.—Dr. A. LOUISE MCILROY asked if there was evidence of thyroid insufficiency in any of the maternal cases. The statement that albumin in the urine was associated with malnutrition in the embryo was of interest when it was remembered that experimental work on cats showed that removal of the thyroid caused albumin in the urine, and the removal of the thyroid in pregnant animals caused hypertrophy of that gland in the fœtus with diminished function.—Dr. J. H. TEACHER agreed with the conclusions that erroneous development of the embryo was a common cause of abortion, and that it was in all probability the expression of defective nutrition or toxic influence acting through the medium of the maternal blood. With regard to those cases in which the embryo was entirely absent, he was of the opinion that they were more readily explained by complete failure of development on the part of the embryonic rudiment than by maceration of an embryo which had been formed and possibly grown to a considerable size. While the latter cause could not be excluded, it was apparent from the condition found in the very earliest stages that the embryonic rudiment might be completely absent—e.g., Leopold's ovum of 1·5 millimetres. While it was probable that ova of this class would be extruded at a very early stage, it was clear that there was sufficient power of independent growth in the placental portion of the ovum to permit of development to a considerable size. In cases of this class there might be not so much unsatisfactory nutritive conditions as simple lack of formative power in the fertilised ovum, so that although the early stages of formation were passed in safety, a time came when the power of growth was spent and the ovum ceased to grow and was expelled. He disagreed with Dr. Lindsay as to the greater frequency of abortion in ova fertilised towards the end of the intermenstrual period. Doubtless on the analogy between the œstrous cycle and the menstrual cycle, the earlier part of the period might reasonably be regarded as the normal one for fertilisation, but facts were wanting to prove that the latter part of the period was unfavourable to continued development, and the histories of various ova which had been admitted to the Normen-Tafeln of Human Embryology (Keibel) showed that normal development might result from fertilisation in the latter parts of the intermenstrual period.

Dr. J. T. WEST read a paper on, and showed specimen of, Congenital Stenosis of the Pylorus in an Infant. The child was quite healthy at birth, and weighed 7½ pounds. It was applied to the breast on the second day and suckled at regular intervals. When it was one month old vomiting began and gradually became much worse. The child lost weight. The abdomen was distended on account of the dilated stomach and the characteristic splashing sound could be easily elicited on shaking the child. On deep palpation in the pyloric area a fusiform mass could be felt. Medical treatment having had no effect the question of operation was raised, but the parents would not give their consent. Twenty-four days after the onset of vomiting the child died in a comatose state. At the necropsy the small and large intestines were found empty; the stomach was large, its walls thickened, and its capacity was found to be 4½ ounces. At the pyloric end there was a large mass of cartilaginous firmness. The stomach and duodenum were empty.

The PRESIDENT showed a specimen of Congenital Stenosis of the Pylorus in an infant.

Dr. DAVID SHANNON showed: 1. A Large Fibroid of the Uterus which had undergone cystic degeneration. It weighed nearly 14 pounds. 2. A well-marked case of Chorio-epithelioma. 3. A Small Uterus with numerous Interstitial Fibroids and one Submucous. Myomectomy had been performed in this case nine years ago.

MEDICAL SOCIETY OF LIVERPOOL.—A pathological meeting of this society was held on Feb. 2nd, Dr. T. R. Bradshaw, the President, being in the chair.—Mr. K. W. Monsarrat exhibited specimens of Adenoma of the Palate, Colloid Carcinoma of the Cæcum, Carcinoma of the Bladder, Fibro-chondroma of the Submaxillary Gland,

Resected Intestine and Sac from Strangulated Umbilical Hernia.—Mr. Douglas Crawford and Dr. D. Moore Alexander showed specimens of: 1. Primary Tubercle of the Tongue from a patient aged 27; the ulcer was situated near the tip of the tongue. Anti-syphilitic treatment had been tried before excision, but with no result. 2. Secondary Tubercle of the Tongue in a man aged 45. The ulcer was situated on the side of the tongue opposite the second molar tooth; there was slight evidence of tubercle at the apex of the right lung. Tubercle bacilli were found microscopically in this specimen, but not in the first. 3. Sarcoma of the Thyroid from a woman aged 50. The tumour had been there for some years, and had grown rapidly in the last six weeks. 4. Acinous Cancer of the Hard Palate in a patient aged 65.—Mr. G. P. Newbolt showed specimens of Appendix and Liver Abscess and of Richter's hernia.—Dr. Alexander showed a culture of Bacillus Lepræ.—Mr. Arthur J. Evans showed Chondro-sarcoma of the Testicle.—Mr. Frank Jeans showed: 1. A Fallopian Tube containing a very early ectopic pregnancy—presumably about 14 days. The symptoms simulated acute intestinal obstruction. 2. A Calculus removed from the ischio-rectal fossa of unknown origin, possibly from the urinary bladder or from the biliary passages. 3. An Intussusception which he had removed from a woman, aged 21 years, involving 3 or 4 feet of jejunum, about 6 inches below the duodenum.—Mr. W. Thelwall Thomas and Dr. G. Stopford Taylor showed a Sacrococcygeal Dermoid from a woman aged 26 years; large cysts lined by squamous epithelium existed in both buttocks; in the post-rectal region the growth was sarcomatous.—Mr. R. E. Kelly and Dr. Ernest Glynn showed a Glioma from the right lobe of the cerebellum from a girl aged 3 years, in which there was a cyst which had been successfully drained three months before death with relief of all symptoms; also a typical Squamous-celled Epithelioma from the substance of the interior of the breast which had probably originated in a dermoid.—Mr. F. T. Paul showed a Fibro-cystic Tumour of the Testicle and an Adeno-chondroma of the Pharynx, and a Perithelioma of the Breast.—The President and Dr. Glynn showed a Chronic Ulcer of the Stomach which caused profound anæmia from concealed hæmorrhage; at one end of it colloid cancer was commencing.—Dr. Alexander related three cases of infection by the Bacillus Aerogenes Capsulatus. Two of these presented the commoner features of infection through wounds, both being cases of accidents. The third was infected from the intestine during life, a malignant growth of the rectum ulcerating into the internal iliac vein and producing symptoms of malignant œdema in the right thigh. The patient died in less than 24 hours afterwards. He also discussed the portals of entry and the difficulty of differentiating the pathogenic anaerobes.—Dr. Warrington Yorke read a note on the Pathology of Lesions of the Cornea and Skin in Trypanosomal Infections. Reference was made to the close similarity that existed between syphilis and trypanosomiasis. Three goats and a horse inoculated subcutaneously with a strain of trypanosomes derived from a case of human trypanosomiasis all developed interstitial keratitis. In two of the animals the condition was of transient character. The corneæ became densely opaque and subsequently cleared again in the course of a few days. The condition was indistinguishable from severe interstitial keratitis of syphilitic origin. Rabbits infected with the same parasite exhibited marked changes in the skin. That of the face and eyelids was usually the first to be involved. The skin and subcutaneous tissues became œdematous and indurated and later there was considerable loss of hair. In severe cases the whole of the skin of the back was bald and greatly thickened. Sections of the tissues were examined in different stages of the disease with the object of ascertaining the nature of the morbid processes. The pathological changes in the cornea and the skin were essentially the same, and the course of events appeared to be somewhat as follows. In early lesions parasites were present in the tissue spaces. This was followed by an œdematous condition of the part with a more or less marked degree of leucocytic infiltration and some new vascular formation. In the cornea the lesions were, with a single exception, confined to the substantia propria, which was in severe cases about twice as thick as that of a normal eye. In one case the cornea was three times as thick as normal, and the morbid processes were not confined to the substantia propria, but had involved Bowman's membrane, and the anterior epithelial layer was separated from the substantia propria by inflammatory exudation. The epithelial cells themselves stained badly and were in parts completely disintegrated. In some cases the parasite had disappeared from the tissue, and with their disappearance there was a tendency of the part to recovery. Attention was drawn to the fact that such lesions as those mentioned were essentially due to the local multiplication of the specific parasite, and were not merely dystrophic or toxic manifestations.—Dr. J. Grimshaw confirmed the accuracy of Dr. Yorke's observations, for he had seen the goats and the microscopic specimens.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 3rd, Dr. A. Christy Wilson, the President, being in the chair.—Dr. E. F. Trevelyan opened a discussion on the Diagnosis and Treatment of Tuberculosis, especially its pulmonary form, presenting a brief and rough summary of 561 cases of phthisis treated in the Leeds Consumptive Institution. An early and certain diagnosis was most important, as the disease could only be healed in its early stages. The importance of careful physical investigation of the chest was reflected in the more recent development of the examination of the extreme apices of the lungs as seen in the apical percussion methods of Krönig and Goldscheider, as well as to a less extent in the use of radiography. The lightest possible percussion gave the best results. The use of solvents (hot alkalies, antiformin) might, perhaps, in a few cases facilitate the examination of the sputum. Tubercle bacilli could sometimes be obtained in the sputum after a tuberculin injection by employing Holt's method. Dr. Trevelyan now used the skin test (von Pirquet's) extensively and the conjunctival less. These reactions did not localise the lesion, but where an organ, &c., was suspected they became of importance. The subcutaneous test was the most valuable owing to its focal reaction. The chest and the sputum should be carefully examined while it was proceeding. For rough purposes of prognosis cases might be divided into—(*a*) those in the early stages of the disease and susceptible of complete healing; (*b*) those whose health might be so re-established that they could return to work; and (*c*) those who would never work again. Early cases and curable cases were not necessarily synonymous terms. Not only were the early cases benefited by proper hygienic treatment (open-air methods), but the worst features of the later disease were much mitigated under it. No drug was of any real permanent service against the disease itself, and drugs should be reserved for, and sparingly used in, the relief of really troublesome symptoms and complications. During the past two years Dr. Trevelyan had used tuberculin rather extensively, first by the mouth and later almost exclusively by subcutaneous injection. By proper individualisation he maintained that no harm could be done and some benefit obtained in almost any stage of the disease. Careful clinical observation of each case, in his opinion, sufficed. He had seen improvement in febrile phthisis by the use of even smaller doses than the small doses usually employed. He was against the ambulatory tuberculin treatment of phthisis unless previously initiated in an institution. This did not so much apply to some other forms of tuberculosis which he had treated with favourable results in ordinary out-patient practice. In conclusion, some remarks were made upon early diagnosis and treatment in relation to the social aspects of phthisis. The importance of the tuberculosis dispensary as the centre of the scheme for dealing with phthisis was emphasised, as well as the instructional uses of consumptive institutions.—Dr. F. W. Eurich drew attention to the necessity of finding suitable work for the poorer patients who were returned from sanatoriums and were unable to resume their former employment. He emphasised Dr. Trevelyan's remarks and the value of Goldscheider's method of light percussion in the early diagnosis of phthisis; he thought there was necessity for a more accurate conception of the relation of the lung to the chest wall, and particularly of the position of the apex. He thought that, on the whole, percussion was the better method than auscultation in the detection of early disease. He had had excellent results in the examination for tubercle bacilli from sputum by using a modification of the antiformin method in which an ether and acetone mixture was employed.—Mr. J. F. Dobson made some remarks on the value of tuberculin injection, principally in relation to surgical forms of

tuberculosis. During the last three years he had seen considerable improvement in a large number of cases. In many cases of tuberculous glands of the neck the improvement had been general as well as local. He started with small doses of T.R. at fortnightly intervals, the patients attending in the out-patient department. For the last six months he had used bacillary emulsion, and on the whole thought the results were better than those given by T.R. In treating glands of the neck in this way it was necessary that the preliminary treatment—the removal of carious teeth, adenoids, and the correction of otorrhœa—should be attended to, otherwise it was practically useless to give tuberculin. In other cases, such as bone tuberculosis and certain joint lesions, he had also seen improvement.—Dr. G. W. Watson thought that in regard to night sweats there was some periodicity to be found in their occurrence, and they were not entirely prevented by open-air treatment. They coincided, not infrequently, with an exacerbation and spread of the disease, and often denoted a mixed infection.—Cases and specimens were shown by Dr. Trevelyan, Dr. R. A. Veale, Dr. M. Coplans, Mr. Dobson, Mr. M. J. Stewart, and Professor A. S. F. Grünbaum.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 3rd, Dr. Phineas S. Abraham, the President, being in the chair. The evening was devoted to pathological exhibits. Among those shown were the following:—Dr. J. A. Coutts: 1. Heart from a case of Malignant Endocarditis in a child aged 5 years. 2. Heart from a case of Endocarditis in an infant aged 2 months. 3. An Infantile Stomach with Pyloric Stenosis from a case in which gastro-jejunostomy had been performed; the pylorus only admitted the passage of a bristle. 4. Extreme Fibrosis of Lung in an infant aged 15 months.—Dr. J. M. Bernstein: 1. Hypernephroma (operation specimen). 2. A specimen from a case of Ulcer of the Pylorus with perforation into the liver, and abscess in the liver; excision; healing; death from pneumonia. 3. A specimen from a case of Obstructive Jaundice, non-malignant; great dilatation of the bile and pancreatic ducts. 4. A Thymus Gland weighing 833 grains from a boy aged 14 years.—Mr. L. A. Bidwell: 1. Primary Carcinoma of the Liver. The specimen was removed from a man aged 64 years. On opening the abdomen the tumour was found to be circumscribed with no evidence of secondary infection; it was excised. The bleeding points were ligatured, and the "V"-shaped wound was brought together with catgut-sutures which stopped the bleeding. The patient did well for a week, but then developed broncho-pneumonia from which he died. 2. A specimen from a case of Carcinoma of the Transverse Colon fungating through the umbilicus.—Mr. Donald J. Armour: 1. Primary Carcinoma of the Appendix. 2. Polycystic (Congenital Cystic) Kidney.—Mr. W. McAdam Eccles: 1. Fibrolipoma from the forehead of a man. The patient was shown at the last clinical meeting of the society, when it had been diagnosed as probably dermoid. 2. Alveolar Sarcoma of the Ovary from a girl aged 11 years. The tumour weighed 6 pounds.—Mr. J. A. Cairns Forsyth: 1. A Kidney with a Cyst which contained 22 Uric Acid Calculi (the cyst did not communicate with the pelvis of the kidney). 2. Kidney showing Hydronephrosis from Malposition of the Ureter, which sprang from the upper part of the pelvis. 3. Liver showing extreme Cirrhosis not due to alcohol.—Mr. Francis F. Muecke: A Cast of the Laryngeal Ventricles from a patient with malignant disease of the larynx.—Mr. J. E. R. McDonagh: Microscopic slides showing the Causative Organisms of Balanitis Erosiva et Gangrenosa, a condition very rare in this country, but frequently found in Austria and Hungary. It is easily cured with peroxide of hydrogen.—The President: A man with Tuberosities on the Face and Hands, probably epitheliomatous.

MANCHESTER MEDICAL SOCIETY.—A meeting of this society was held on Feb. 1st, Dr. A. Emrys Jones, the President, being in the chair.—Mr. L. Savatard communicated the following cases:—1. Xeroderma Pigmentosum in a female aged 42 years. The condition, first noticed three years ago, had gradually progressed and was not affected by the variations of season. No warty or other growths had as yet arisen. Microscopical examination of a pigmented area showed, in addition to a mass of pigment in the epidermis and cutis, marked disturbance and atrophy of the basal cells. Attention was drawn to the striking similarity between this condition and X rays dermatitis with subsequent malignant growths. 2. Lupus Vulgaris of long standing with (*a*) papilloma, and (*b*) epithelioma or scar tissue. 3. Cutaneous Neurofibromatosis, with General Fibrosis of the Peripheral Nerves, in a man aged 25 years. There was no family history of this or any allied condition. This was his fourth attack, the first appearing five years ago after an attack of acute rheumatism. The cutaneous lesions of the previous attacks had entirely involuted. The lesions were most numerous on the trunk; the larger ones, not exceeding 1·5 centimetres in diameter at their base, were hemispherical and sessile, with a bluish transparent look. Many of the smaller ones presented a purpuric appearance. A section of a small tumour (kindly made by Dr. C. Powell White) showed it to be a soft fibroma of the terminal filaments of the cutaneous nerve pushing upwards into the cutis and displacing the sweat and sebaceous glands.—Mr. J. W. Smith read a communication on the Treatment of Carcinoma Recti.

Reviews and Notices of Books.

Dyspepsia, its Varieties and Treatment.™ By W. SOLTAU FENWICK, M.D. Lond. London and Philadelphia: W. B. Saunders Company. 1910. Pp. 485. Price 13*s.*

DISORDERS of digestion form a large proportion of general medical practice, yet much misunderstanding exists as to the classification of these disorders and the principles upon which their treatment should be based. These difficulties are no doubt due, as Dr. Fenwick suggests, in great measure to a disposition to regard dyspepsia as a substantive disease dependent upon a primary failure of the gastric functions, whereas in a considerable proportion of the cases the symptoms originate in the intestines, and may ensue from a derangement of the liver, pancreas, or bowel. We have not expressed the above opinion exactly in Dr. Fenwick's own words, for although there is doubtless much to be said in favour of the views he expresses, we consider that he rather depreciates the part which the stomach plays as the prime seat of digestive disorders. For instance, in our opinion, the following sentence requires modification: "Moreover, a disturbance of digestion in the stomach itself is rarely due to a primary disorder of that viscus, but is usually a consequence of serious disease of another and perhaps remotely situated organ of the body." Then he adds, "The truth of this apparent paradox will be appreciated when it is remembered that the majority of the secretory, motorial, and inflammatory affections of the stomach result from the failure of some other organ to execute its proper functions." That the stomach is frequently unjustly blamed as the sole originator of indigestion may be admitted, but we believe the statement we have quoted to be too sweeping in its character. Nevertheless, the warning it contains is a sound one, and it behoves the practitioner to make a careful examination of the patient, and exhaustively to consider the symptoms before arriving at the conclusion that the stomach is the seat of the primary trouble.

The classification of dyspepsia which Dr. Fenwick adopts is a good one, and will be found especially useful for purposes of treatment. His description of the symptoms of each variety is easy to follow, and much information will be obtained by a study of his remarks. We would especially draw attention to the explicit manner in which the differential diagnosis is discussed. Unless an accurate diagnosis is made the treatment must incline to be empirical, whereas, in order that success may follow, rational therapeutic measures are essential. In this direction this work will be found to be of considerable value, and practitioners may derive many useful hints as to the best manner in which to treat their patients, both as regards diet and

drugs. The various mechanical methods also receive due notice.

Die Physiologie und Pathologie des Wochenbettes, für Aerzte dargestellt. Von Privat Docent Dr. F. FROMME, Oberarzt der Königlichen Universitäts-Frauenklinik zu Halle-a.-S. Berlin: S. Karger; London: Williams and Norgate. 1910. Abt. 31; Tafeln 2. Pp. 256. Price 8.40 marks; bound, 9.60 marks.

THE prominent part played at the present day by the practice of antisepsis and asepsis in the care of lying-in women, and the importance of the occurrence of various septic processes resulting from the neglect of such practice, are well illustrated by the publication of this book, and also by the fact that of the eight volumes of von Winckel's "Handbook of Midwifery" a bulky volume of no less than 1000 pages is devoted to these matters. The correct treatment of the large majority of confinement cases consists in the intelligent application of the principles of antisepsis. By these means childbirth has been robbed of most of its dangers, and that a book of 256 pages should be devoted to such a subject is further proof, if any were wanted, of the paramount urgency of this treatment.

Dr. Fromme has written a very interesting work dealing with the normal and abnormal puerperium. In the first half of the book he discusses the physiology of this period, including under this head the processes of involution, the secretion of the milk, the symptoms of the puerperium, and the care of the mother and of her baby. The second, and more special, portion of the book deals in a very complete manner with the pathology of the lying-in period. The normal and abnormal organisms met with in the genital tract are described, and also the diseases which may result from their presence. This part of the book is very good indeed. The various forms of infection are clearly described, and the author shows in a clear manner the distinctions between the many septic conditions which may follow delivery.

In considering the treatment of cases of so-called sapræmia due to the retention of portions of the placenta or membranes in utero, Dr. Fromme is strongly in favour of the least possible interference. If necessary he advocates the removal of pieces of placenta or membranes with the finger, but he deprecates curetting or the application of strong antiseptics to the uterine cavity. He quotes with approval Professor Winter's conclusions, who maintains from his own observations that the spontaneous expulsion of portions of placenta is much safer for the patient than their artificial removal. The author describes in detail, for particulars of which we must refer our readers to the book itself, a method which he believes can be relied upon for determining whether a hæmolytic streptococcus is merely a harmless saprophytic or a virulent pathogenic organism. In the treatment of cases of septic infection he lays great stress on this distinction, since upon it he bases to a large extent his treatment and his prognosis. Unfortunately, these observations have not been substantiated by other observers, and we have therefore at present no reliable method of distinguishing between saprophytic and pathogenic streptococci in the genital tract. The chapters devoted to a consideration of the various forms of puerperal infection, and the differences they present in accordance with the variety of organism present, will well repay careful study. Besides sections dealing with the effect of the gonococcus in the puerperium and of the rarer organisms associated with some septic processes, there are others treating of puerperal tetanus and diphtheria. Other conditions considered are infections of the urinary tract and of the breasts, while the concluding chapters treat of the hæmorrhages and the psychoses of the puerperium.

The whole work forms an excellent monograph. It contains a large amount of information, and if we are inclined to disagree a little with some of the author's love of minutiæ in, for example, his antiseptic precautions, this is a good fault. On the other hand, we do not believe that "the rational puerperium," of which he is a strong advocate, will last as long as this book, on the production of which Dr. Fromme is to be congratulated.

Oxford Medical Publications. Clinical Pathology in Practice, with a Short Account of Vaccine-therapy. By THOMAS J. HORDER, B.Sc., M.D. Lond., F.R.C.P. Lond., Medical Registrar and Demonstrator of Morbid Anatomy (late Demonstrator of Pathology and Junior Demonstrator of Practical Medicine) at St. Bartholomew's Hospital, Physician to the Great Northern Hospital and to the Cancer Hospital. London: Henry Frowde and Hodder and Stoughton. 1910. Pp. 216. Price 7*s.* 6*d.* net.

IT is expressly stated in the preface that the aim of this book is not to serve as a laboratory text-book, but to present the practitioner with a brief survey of the scope and usefulness of modern pathological methods as applied to the diagnosis and treatment of disease. To apply laboratory methods practically to the investigation of cases certain information is necessary, including a knowledge of the materials to be studied, the manner of collecting them, and the value of the results obtained. Dr. Horder's book is well calculated to supply this information and should prove of real value to those practitioners who desire to apply the methods of so-called clinical pathology intelligently and usefully. In a valuable suggestive introductory chapter Dr. Horder is careful to utter a warning against any tendency to neglect the physical methods of examination of the patient or to exaggerate unduly the rôle of the clinical pathologist and the value of the information he supplies. He urges the necessity of a close and mutually helpful relationship between the clinician and the pathologist.

After the necessary apparatus required for the collection of material for investigation has been briefly described, a useful account is given of the method of blood culture. The indications for this procedure, the technique of its performance, and the interpretation of the results obtained are all dealt with concisely and in a practical manner. The histological examination of the blood, the methods of enumerating the corpuscles, and of estimating the percentage of hæmoglobin are next considered, and the significance of the results of such examinations is discussed. The characters of the blood in the chief varieties of anæmia are briefly described, and the causes of leucocytosis and of leucopenia are enumerated and differentiated from one another.

The methods of pathological investigation of diseases of the lungs and pleura are dealt with under three separate headings, the first being the examination of the sputum, the second the examination of fluids obtained by pleural puncture, and the third the investigation of material obtained by direct puncture of the lung. The characters of the sputum in various diseases of the respiratory tract are clearly described and differentiated from one another. In connexion with pleural puncture the chemistry, cytology, and bacteriology of the different pleural exudates are considered. An interesting and critical account of the bacteriology of empyemata is a useful feature of this section. The substance of the chapter on puncture of the lung for diagnostic purposes has already been published in our columns by Dr. Horder,[1] and we have commented on this procedure, which he strongly recommends, in an annotation.[2] A careful description of the method of lumbar puncture and its use in diagnosis and treatment is afforded in a chapter

[1] THE LANCET, Nov. 6th, 1909, p. 1345.
[2] Ibid., p. 1366.

devoted to this subject, which we may mention as one of the best in the book.

Separate chapters are devoted to infective conditions of the nose, mouth, and throat, infective diseases of the urinary tract, the results of joint puncture, and the examination of the fæces. The diagnosis of tuberculosis and its specific treatment are next dealt with, and clear accounts of the diagnostic tuberculin reaction and its recent modifications are here included. Lucid descriptions of the principles and mode of carrying out certain specific reactions, such as Widal's and Wassermann's tests, are then given. An interesting chapter on fever without physical signs affords a valuable illustration of the practical application of the methods to be applied in the study of obscure febrile conditions. The use of bacterial vaccines in treatment is dealt with in a thorough, common-sense, and practical manner in the last two chapters. The questions of dosage and of the intervals between successive injections are discussed in the light of Dr. Horder's own experience. He regards the control of vaccine treatment by repeated determinations of the opsonic index as unnecessary. The use of stock vaccines is also briefly discussed. In general we may say that the recommendations given are practical, and no exaggerated claims are made in regard to the value of the method.

We have read Dr. Horder's book with interest, and can recommend it as a useful practical handbook.

Salvarsan ("606"): Its Chemistry, Pharmacy, and Therapeutics. By W. HARRISON MARTINDALE, Ph.D. Marburg, F.C.S.; and W. WYNN WESTCOTT, M.B. Lond., D.P.H., His Majesty's Coroner for North-East London. London: H. K. Lewis. 1911. Pp. xv. + 77. Price 5*s.* net.

A DEFINITE general opinion as to the value and trustworthiness of the preparation "606" can hardly be said yet to have formed, and though the amount of evidence in its favour largely surpasses the evidence opposed to it, yet at present it cannot be expected that the new remedy should be accepted without question. This book, written by the authors of the well-known "Extra Pharmacopœia," contains a very useful collection of the substance of most of the papers which have appeared on the subject of "606." The work commences with an account of the chemistry of the drug; the therapeutic results obtained are also described, the question of dose is considered, and the mode of introduction discussed. The untoward results which have occurred are referred to and the contra-indications are given. An interesting section is that devoted to some special communications which have been addressed to the authors during the preparation of the work. These are all from London authorities and are well worthy of perusal.

On the whole the book gives the impression that the authors do not regard the drug with favour, though it is difficult to point to any individual expression to this effect. They are thoroughly conversant with the chemistry of the substance and its allies, but they are possibly somewhat handicapped in preparing the work by the fact that they appear to have no personal knowledge of the clinical application of the drug.

Physiological Principles in Treatment. By W. LANGDON BROWN, M.A., M.D. Cantab., F.R.C.P. Lond., Physician to the Metropolitan Hospital; Medical Registrar and Demonstrator of Physiology, St. Bartholomew's Hospital. London: Baillière, Tindall, and Cox. 1910. Pp. 392. Price 5*s.* net.

IN THE LANCET of Dec. 26th, 1908, we published a review of the first edition of this work, in which we expressed the favourable opinion we had formed as to its merits. After again perusing this volume we cordially repeat the praise to which we then gave utterance.

The alterations in this edition are mainly in matters of detail, though additions have been made to some of the sections. In the remarks on the movements of the stomach, the results obtained by X ray examination with from ½ to 2 ounces of bismuth oxycarbonate suspended in milk or gruel are detailed. Reference is also made to the investigations of Cannon and Hertz, which have added considerably to the knowledge of the passage of food through the stomach. Some addition has also been made to the chapter on uric acid and the purin bodies, endogenous purins being more fully considered. The chapter on intestinal intoxications has also been largely re-written. Attention is given to the subject of vaccine treatment of intestinal intoxications. It is suggested that a plate culture may be made from the stools, and the effect of the patient's blood in agglutinating or destroying the more definitely pathogenic organisms tried. If a positive reaction be obtained with one or more of these a vaccine may then be prepared. Additions have been made to the chapter on irregular action of the heart, and the remarks on this subject are some of the most interesting in the book.

We can recommend this work to the attention of our readers, and believe that it will continue to receive a wide acceptance at the hands of the profession.

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1. *Lippincott's New Medical Dictionary.* A Vocabulary of the Terms Used in Medicine and the Allied Sciences, with their Pronunciation, Etymology, and Signification. By HENRY W. CATTELL, A.M. (Laf.), M.D. (U. of P.). Freely illustrated with figures in the text. London and Philadelphia: J. B. Lippincott Company. 1910. Pp. 1108. Price 21*s.* net.
2. *The Practitioner's Medical Dictionary.* An Illustrated Dictionary of Medicine and Allied Subjects, including all the Words and Phrases Generally Used in Medicine, with their Proper Pronunciation, Derivation, and Definition, based on Recent Medical Literature. By GEORGE M. GOULD, A.M., M.D. Second edition, illustrated. London: H. K. Lewis. 1911. Pp. 1042. Price 18*s.* net.
3. *The Illustrated Medical Dictionary.* A New and Complete Dictionary of the Terms Used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Nursing, and Kindred Branches, with the Pronunciation, Derivation, and Definition. By W. A. NEWMAN DORLAND, A.M., M.D. Fifth edition, revised and enlarged. London and Philadelphia: W. B. Saunders Company. 1909. Pp. 876. Price 19*s.* net.

1. WITH the multiplication of medical words comes a multiplication of medical word-books. The latest addition to the already large list of medical dictionaries is one compiled by Dr. Henry W. Cattell for the J. B. Lippincott Company, which has answered our expectations in furnishing information on such words as we have tested it with. We are pleased to find that the author has adhered to the more classical spelling of those words in which there seems to be in America a decided determination to effect an abrupt cleavage with the past—such words, for instance, as anæmia, diarrhœa, iodide, sulphur, which many who seem to think that change is synonymous with progress and reform would have us spell anemia, diarrhea, iodid, sulfur. The book is not too bulky to handle with ease, and has a thumb index.

2. Gould's "Practitioner's Medical Dictionary" in its second edition is practically a new work. Great pains have been taken to include most of the new terms that have been coined in such profusion during the last decade or so, and the metric system equivalent has been added where weights and measurements are given, especially in the matter of doses. The additions and changes of the new (U.S.) Pharmacopœia have been included, also the B.N.A. anatomical nomenclature. The author's interesting Notes Concerning the History of Lexicography, from the preface to his Dictionary of New Medical Terms, is republished. The fact that over 200,000 copies of the author's various medical

dictionaries have been scattered all over the civilised world certainly testifies to a wide appreciation of his labours.

3. "Dorland's Illustrated Medical Dictionary," now in its fifth edition, is too well known to need much comment, further than to state that the entire book has been rewritten, many of the definitions revised, and more than 2000 new terms have been added, many of which appear herein for the first time in any dictionary. A special feature has been made of those biological words which are now appearing with hitherto unwonted frequency in medical literature, especially physiological and pathological, while the B.N.A. nomenclature and the latest classification of proteins have been adopted. This work is illustrated with several admirable coloured plates.

The unsatisfactory part of these dictionaries—a minor one certainly, as compared with the importance of definitions and explanations of the new terms in medicine and the allied sciences that are being so continuously coined, to the confusion and bewilderment of the reader—lies in the orthography and pronunciation. To the former we have already referred when speaking of "Lippincott's Dictionary." The latter is more naturally in a state of flux than the former ought to be; still, even there it is frequently mispronunciation that gives rise to wrong spelling. Pronunciation is said to be a matter of good usage. But what constitutes "good" usage? The method of the few scholars who really know and are careful, or that of the majority who are as a rule neither well informed nor careful? In America the usage of the majority, irrespective of scholarship, in Great Britain the usage of the more scholarly, irrespective of the number, seems to carry the day.

LIBRARY TABLE.

Photography in Colours. By GEORGE LINDSAY JOHNSON, M.A., M.D., B.S. Cantab., F.R.C.S. Eng. London: Ward and Co. 1910. Pp. 143. Price 3*s.* 6*d.* net.—The rapid advance made in photography in colours has been so remarkable that Dr. Lindsay Johnson has thought it desirable to write a monograph rather than to revise this section of his previous work on "Photographic Optics and Colour Photography." He deals with the fascinating subject in a simple but comprehensive manner, and shows repeatedly that his advice and comments are founded on ripe experience of all the methods. The colour photographs which adorn the book prove that he is an able practitioner of the art; they are somewhat harsh in colour contrasts and therefore lacking in the delicate refinements which are obtained more successfully in other ways, but it must be remembered that they are employed here to some extent as diagrammatic models. After a preliminary historical review the author compares the eye with a camera and draws some analogies between colour photography and normal and defective vision. He shows how the luminosity curve of the retina may be approximated by the panchromatic plate, the application of pinacyenol to the plate causing an extension of the curve of sensitivity towards the red end of the spectrum. The theory underlying Lippmann's interference method, three-colour photography by additive and subtractive methods, and the multitudinous single-plate colour processes, is very lucidly described, and is worth reading by those who do not propose to practise the art. It is illustrated by admirable diagrams and photographs, which afford much assistance to obtaining a clear understanding of what is really more confusing than actually complex. The chapters on the practical details of the working of single colour-screen plates and photographic colour printing will be of the utmost help to beginners. A final chapter on Kinematography in Natural Colours is followed by an appendix where details of developing and tables of times of exposure and so on are given.

Vaccine Therapy: its Theory and Practice. By R. W. ALLEN, M.D., B.S. Lond., late Clinical Pathologist to the Mount Vernon Hospital, &c. Third edition. London: H. K. Lewis. 1910. Pp. 277. Price 7*s.* 6*d.* net.—Considerable alteration has taken place in this book since we reviewed the first edition in 1909. If we remember rightly, the title was originally "The Opsonic Method of Treatment," but this feature has now dropped out from the place of honour. The change corresponds with a change in the author's views as to the importance of this particular procedure, for he now believes that opsonic estimations are not needed as a routine measure in all cases of inoculation, though owning the accuracy of the method, when used by an expert, for the measurement of the degree of immunity existing in a patient. He perhaps hardly allows sufficient weight in this question to the adverse opinions which have been expressed by some very careful and competent observers. It can hardly be doubted that vaccine treatment has, if we may be pardoned a colloquialism, "come to stay." Hence such a presentation of the whole subject as is contained in Dr. Allen's book must be welcome. The most noteworthy extension of the field for this procedure which is at present in view is the use of vaccines in acute infections, such as enteric fever and pneumonia. Good results are claimed by several observers in both these diseases, and the method is certainly worthy of trial. We observe that the author advises the use of autogenous tuberculins as well as of vaccines of this nature in other diseases; but good results are also claimed for the employment of bovine tuberculin in human cases. The use of vaccines in the "carriers" of infection, such as enteric fever, is also likely to lead to valuable results. By way of minor criticism we may question why a case of carbuncle is placed under the heading of "Periostitis and Osteomyelitis" (p. 94), and note the term bacillus Caucasicum—surely a "false concord"—for the Bulgarian bacillus, and such curiosities of expression as "similar results to when introduced subcutaneously" and "any affection soever" (for "whatever"). The book is well printed and got up.

Travail de l'Amphithéâtre d'Anatomie des Hôpitaux: Recherches d'Anatomie Chirurgicale sur les Artères de l'Abdomen. Le Tronc Cœliaque. Par PIERRE DESCOMPS, Prosecteur des Hôpitaux. With 97 figures in the text. Paris: G. Steinheil. 1910. Pp. 205. Price 10 francs.—This monograph upon the arteria cœliaca has been compiled by M. Descomps from special and minute dissections of 50 subjects, and from a study of the literature. A detailed account is given of the variations of the origin of the trunk and the distribution of its terminal branches, and the labour has not been undertaken merely as an exhaustive study in descriptive anatomy, for, as the author points out, a surgical interest attaches itself to the anomalies in distribution of the branches of this artery. The work is a laborious and complete inventory of the variations of a definite arterial trunk; and it will remain as a permanent work of reference for the specialist. The author is greatly to be commended for his illustrations, for his 97 figures are all examples of a type of diagram in which so many French publications excel. These little drawings, though mostly having no pretence to a more than diagramatic representation of the part depicted, are carefully and artistically drawn. They are accurate and simple, and the fact that they were intended only as diagrams has not been taken by the draughtsman as an excuse for careless drawing. This point is one worth noting, for the appearance—and utility—of so many modern English works is spoiled by the inclusion of careless and inaccurate figures the faults of which are excused on the grounds that they were only intended as diagrams. Every figure given by

M. Descomps is clear and is carefully drawn, and even those that depict the most unimportant trifles are done with an altogether excellent attention to accurate detail. They add greatly to the value of a book which from its nature can never be one of very general interest, but which is a monument of conscientious work upon which the author is to be congratulated.

A Manual of Nursing. By MARGARET FRANCES DONAHOE. London and New York: D. Appleton and Co. 1910. Pp. 489. Price 7*s.* 6*d.*—Miss Donahoe tells us in her preface, where she speaks of herself, that "the mistakes and crudities are her own," and this frank confession makes us all the more sorry to have to say that there are many mistakes. For Miss Donahoe's chemical, physiological, and medical knowledge is, judging by her own statements, very imperfect. Where she does know her subject she knows it well, for her accounts of such nursing matters as washing a patient, passing a catheter, making a bed, and dusting a ward are good and clear. But in other matters her teaching is sadly incorrect, and so is her Latin. For instance, on p. 102 she talks of "the glans clitoris," and on p. 112 of "pruritis," while on p. 286 she uses "cilia" as a singular noun. These errors are, however, harmless, but the same cannot be said for the following. On p. 66, "Urine has a peculiar ammoniacal odor," a statement which is certainly not true of normal urine, and again on the same page, "Urine is fluid unless it contains quantities of mucus or blood or albumin, when, if left standing, it may be almost jelly-like in consistency." We do not think that albumin by itself will make urine jelly-like. On p. 126 we are told, "A high temperature with a dry skin is not so dangerous as the same temperature with a wet skin," a statement which, taken generally, is not true. On p. 203, plaster of Paris is stated to be "calcium sulphide." On p. 323 she says, "Often associated with heart disease is rheumatism. This attacks the joints, flying about from one joint to the other, causing intense pain, but leaving the joints uninjured." As a whole, we cannot conscientiously recommend this book, though, as we have said above, there are portions of it which are useful and accurate.

Feeding and Care of Baby. Issued by the Society for the Health of Women and Children. Dunedin: Mills, Dick, and Co. 1910. Pp. 144. Price 1*s.*—This little book is a compilation on the subject of infant management, which has been issued by the Society for the Health of Women and Children, New Zealand. Although the work is anonymous, it appears from the context that the medical authorities in connexion with the Karitane Baby Hospital are responsible for the work, and it would be almost impossible to compress more correct and authoritative advice on the whole subject into a smaller number of pages. It is quite clear that all the best works have been consulted and quoted, not always, however, with due acknowledgment. The book just misses excellence, owing to want of orderly arrangement and the proper marshalling of facts. There are much repetition and constant change in the type. Very often most important facts are printed in the smallest type, while those of less importance are more conspicuous. The illustrations are excellent, but crowded haphazard into the text. A good and experienced editor with very little trouble could convert this medley of facts into a valuable and practical guide for mothers and others who are concerned with the management of infants.

The Care of Infants and Young Children in Health. By MILDRED M. BURGESS, M.D. Lond. London: H. K. Lewis. 1910. Pp. 72. Price 1*s.* net.—This useful little manual, while intended for all interested in the healthy upbringing of children, is especially likely to prove of service to those attending courses of lectures on infant care. It follows the syllabus of the infant care course of the London County Council and deals with breast and substitute feeding, the general conditions influencing growth and development, baths, the clothing of babies and young children, the treatment of emergencies, and ventilation.

Formation of Character. By Rev. J. B. S. WATSON, M.A. Second edition. London: H. R. Allenson. Pp. 115. Price 1*s.* 6*d.*—Mr. Watson's position as chaplain of His Majesty's Prison, Brixton, must certainly have afforded him ample opportunity for studying the relation between the plight of those derelicts with whom as a prison official he came into contact and their perversion or want of character. There can be no doubt that there is a lack of discipline in the bringing up of the young of the present day that is causing vast uneasiness as to the future in the minds of many thoughtful persons. At present, those who would give us "royal roads" are having things more their own way than they are entitled to, and the result is a sentimentalism that would eliminate from modern "educational" methods whatever happens to be irksome or distasteful to the child, seeking to cause it to lay hold on information—knowledge is not the word—by methods of play. If the acquisition of information, or even knowledge, were the sole or the main object of education such methods would, perhaps, adequately achieve their end. But if the chief aim of education is the formation of character by self-discipline and self-control, these qualities must be initiated by discipline and control from without, for it is doubtful if any man ever learned to exercise discipline and control on himself until he had first learned to submit himself to discipline and control at the hands of others. The book before us consists of a preface by the Rev. G. P. Merrick, formerly Chaplain-Inspector of His Majesty's Prisons; a foreword on Industry, by Mr. Andrew Whitlie; and chapters by the author respectively on Character, Courage, Temperance, Industry, and Reverence and Self-Reverence, each describing and illustrating factors in the formation of character and the attainment of moral culture. In regard to reverence, the author quotes the saying of George Eliot, "The first condition of human goodness is something to love. The second something to reverence." And later he writes: "Having for years visited and interviewed men and youths whose character has suffered through the commission of some form of crime, I venture to affirm that the lack of due reverence for one's own self and for the self of others is the prime cause of the great proportion of the cases that have come under my notice and my care." The book is illustrated by anecdotes well calculated to attract the attention of young readers, and is pervaded by a high moral tone of which the religious foundation is plainly but not obtrusively set forth.

A Text book of General Bacteriology. By EDWIN O. JORDAN, Ph.D., Professor of Bacteriology in the University of Chicago and in Rush Medical College. Second edition, thoroughly revised. Fully illustrated. London and Philadelphia: W. B. Saunders Company. 1910. Pp. 594. Price 13*s.* net.—The first edition of this work was published so recently as 1908 and was reviewed at length in this journal.[1] In the present issue the author has "corrected a few errors, repaired some omissions, and added several new sections." The changes are not, however, very serious, and though the book has been lengthened by some 26 pages, about 13 of these are accounted for by a greatly improved index. Though the book is written to a great extent on lines usually followed by text-books of bacteriology which are intended for medical students and is perfectly well adapted for the use of such students, yet the desire of the author has been to treat the

[1] THE LANCET, March 13th, 1909, p. 769.

subject on broad lines and deal with it as part of a general liberal scientific education and not as the technical training of a specialist. The chief changes introduced in this edition consist in the inclusion of a description of the iron and sulphur bacteria, and in the chapter on diphtheria of a section on the methods of concentration of antitoxic serum. The section on bacteria in art and industries has been lengthened by the addition of paragraphs on bakery fermentations, the retting of hemp, and on the bacteria which cause destruction of cellulose. There are some additions to the diseases of plants which are described, and there is a short discussion on the vexed question of the entrance of organisms through healthy plant tissues. The section on diseases of doubtful bacteriology now includes the recent work on anterior poliomyelitis. Several diseases to a large extent peculiar to North America are mentioned. Amongst them is Rocky Mountain spotted fever, but we do not observe that any mention is made of the possible relation of the disease to typhus. The appearance of the book and the printing are, as in the first edition, good. The selected illustrations also are well reproduced.

The Taxonomic Value of the Microscopical Structure of the Stigmal Plates in the Tick Genus Dermacentor. By C. W. STILES. Bulletin No. 62. With 43 plates. Hygienic Laboratory, Treasury Department, Washington, U.S A. 1910. Pp. 72. —The author of this brochure, Dr. C. W. Stiles, is well known in this country as well as in his own for his investigations upon these and other parasitic animals, including more particularly the tapeworms. We have, therefore, to consider a work by a naturalist well qualified to instruct us upon a matter which, at first sight perhaps trivial, is really of great importance. The markings and sculpturings upon certain of the hard parts of these small and parasitic arachnida are of themselves doubtless a justifiable contribution to zoology, inasmuch as this facilitates the identification of species, and thus leads to a general view of the number and distribution in the world of these little-noticed animals. But in addition to this the subject has a greater importance by reason of the fact that ticks are now well known to convey disease from animal to animal upon which they are parasitic. Thus, their minute investigation is not only of theoretic but of great practical weight. For, as in the case of mosquitoes and malaria, it is not every tick which conveys disease; and the object is to concentrate our destructive energies upon those species which are really guilty. The first step to be taken is therefore clearly to have at hand plain directions as to the characteristics of the several forms; and Dr. Stiles makes a distinct contribution towards this desired end in the pamphlet before us. His editors, the Treasury Department of the United States Government, have done well in showing a great liberality in the matter of plates which obviously render it easy, and without which perhaps barely possible, to identify the different forms. To this end there is a lavish series of plates not only showing details of the microscopic build of the stigmal plates, with which the author is principally concerned, but showing also magnified and coloured illustrations of the entire animals in the case of a few species.

Hazell's Annual for 1911. Edited by HAMMOND HALL. London: Hazell, Watson, and Viney. Pp. lix.–592. Price 3*s.* 6*d.* net.—This well-known member of the great group of periodical reference books that are practically indispensable to a man of affairs to-day made its appearance somewhat late this year on account of the General Election, but the work gains by the inclusion of a biographical list of Members of the House of Commons now sitting, with statistical tables and summaries of important announcements by the party leaders during the election. Many questions of the day—political, socio-economic and imperial—have their respective issues outlined. There is practically no phase of interest in modern life which escapes its notice. Many new subjects have been introduced and the old ones brought up to date.

The Probationer. By A. M. IRVINE. London: S. W. Partridge and Co. Price 2*s.* 6*d.* Pp. 300.—This is an amusing and brightly written story, and the author, we should say, has a first-hand acquaintance with the scenes which she describes. All the same, we should not have thought it possible that a raw probationer would be let loose in the ward of a children's hospital and simply told to make the children's beds without the smallest information as to what they were suffering from. Naturally enough, she took her first patient out of bed, a proceeding which did not commend itself to the authorities, since the child had pneumonia. The heroine of the tale is blessed with a sense of humour, and is in no way blind to her own shortcomings. She had plenty of pluck, and the way in which she conquers her own ignorance and stupidity and wins the favour of all, including a fascinating house surgeon, is quite readable. The story may be recommended to all young women who are thinking of taking up nursing as a calling. Not the least amusing portions of the story are those in which blunders in simple cookery are described, when amongst other matters the efforts of the probationer to boil milk ended in disaster.

The Cookery Annual for 1911 and Year Book of the Universal Cookery and Food Association. Seventeenth year of issue. Edited by C. HERMAN SENN, G.C.A., &c. London: Food and Cookery Publishing Agency. 1911. Pp. 166. Price 1*s.*—More than a fair proportion of illness in this country is attributable to a defective knowledge of catering, including cooking; and this is especially true among the poorer classes. The Universal Cookery and Food Association was established in 1885 to promote and encourage the advancement of the art of cookery in every grade among all classes of the community, Her Majesty Queen Alexandra being chief patroness. This book, edited by the managing director and chief secretary of the association, contains much interesting (and some curious) information concerning the association and kindred organisations; also a series of menus for three meals on every day of the year.

JOURNALS AND MAGAZINES.

Journal of Anatomy and Physiology. Conducted by Sir WILLIAM TURNER, K.C.B., ALEXANDER MACALISTER, ARTHUR THOMSON, ARTHUR KEITH, and ARTHUR ROBINSON. Vol. XLV., Part II. January, 1911. London: Charles Griffin and Co. Annual subscription, 21*s.*, post-free.—Of the ten papers included in this number no less than three are devoted to the vertebral column and ribs. Dr. E. Barclay-Smith describes in full detail the anomalous vertebral column of an ancient Egyptian, presented to the Cambridge University Museum by Professor G. Elliot Smith. In this peculiar spine a great disturbance of the normal arrangement is seen, both in the anatomical form and in the numerical distribution of the various types of vertebræ. The first cervical vertebra is fused to the occipital bone (one free vertebral segment is assimilated to the skull), and this absorption of the first free element is obviously correlated with the general disturbance in the distribution of the units of the column. There is a lack of fully described vertebral columns, some regions of which show anomalous types of vertebræ; for too often the anomaly is described without relation to the remainder of the vertebral elements. This careful record of an anomalous column is therefore a welcome addition to the literature, for it is only from such complete records that a future generation of anatomists may collect data for drawing

conclusions as to the real causation and meaning of these strange variations. Dr. W. L. H. Duckworth describes a curious variety of the first thoracic vertebra; but, unfortunately, the condition of the other units of the vertebral column cannot be recorded, and the anomaly must stand only as the recorded variation of an individual vertebra unassociated with anything that might tell of its causation or its significance. The same author also describes a case of osseous tumour of the frontal region of the skull, the chief interest of which lies in its association with certain abnormalities in the form of the pituitary fossa. Professor E. Fawcett, in a paper entitled "Some Notes on the Epiphyses of the Ribs," points out the discrepancy among the views of various anatomists concerning the number and situation of these centres; and he shows that the actual epiphyses vary in different members of the rib series. The epiphyses of the upper six ribs he finds to be somewhat different in their distribution from those of the lower six, and from this fact he adduces support for Dr. A. Keith's findings concerning the different rôles in respiration played by the upper and lower ribs. A paper by Professor E. J. Evatt deals with the development of the prostatic gland in the female and the homologies of the urethra and vagina in the two sexes. The writer reconstructs the urethra and vagina of a human female fœtus of 3½ months, and from the reconstruction and the study of sections of fœtal material he has come to the conclusion that the distribution of the prostatic remnants in the female points to the correctness of the views regarding the development of the vagina put forward some years ago by Berry Hart and by Wood Jones. He has given fresh evidence for the claims of these workers that the vagina is formed as a solid downgrowth, and not by septal division of the cloaca or by fusion of the Müllerian ducts. That a third independent worker has established the truth of these strange transformations of the visceral openings should place the matter beyond dispute. Since the understanding of the malformations of the visceral openings depends upon a knowledge of the manner of their development, it is to be hoped that these methods will become incorporated in ordinary gynæcological teaching. One other embryological paper is that of Mr. Douglas G. Reid, and it deals with the fœtal disposition of the peritoneum. Mr. A. B. Appleton gives a very detailed account of the brains of a Madrassi Hindu and of a Tamil, which are preserved in the Cambridge University Museum. Professor A. F. Dixon gives an account of a case from the dissecting rooms of Trinity College, Dublin, in which three kidneys were present. Mr. Percy Sargent has a paper entitled "Some Points in the Anatomy of the Intracranial Blood Sinuses," and Dr. S. E. Whitnall one dealing with "A Ligament acting as a Check to the Action of the Levator Palpebræ Superioris Muscle."

Edinburgh Medical Journal.—The February issue of this magazine contains several papers of exceptional interest. Dr. Ashley W. Mackintosh, Dr. A. W. Falconer, and Dr. A. G. Anderson write on congenital family cholæmia, otherwise called acholuric family jaundice, and describe a case in a boy aged 7 years. The condition is held to result from undue fragility of the red corpuscles, owing to which they break up in the circulation with formation of bile pigment which may be found dissolved in the serum, but which does not appear in the urine. With this condition may be contrasted that of erythræmia described by Dr. H. L. Watson Wemyss on a later page of this journal, which may, perhaps, be produced by diminished destruction of red cells, though another view attributes it to an affection of the bone-marrow. Mr. Alexander Don writes on operative procedures about the knee-joints and advises large incisions for opening this cavity. Dr. Charles Melland discusses conditions associated with enlargement of lymphatic glands, and Dr. R. Cranston Low writes on fungus infections of the finger-nails, which may be due to ringworm, to favus, or to an unknown species of fungus.

Dublin Journal of Medical Science.—In the January number is published an inaugural address by Mr. W. I. de C. Wheeler on the treatment of fractures by ancient and modern methods, in which he points out the advances due to Lucas-Championnière, who was followed by Mr. Arbuthnot Lane. He points out the dangers run by surgeons in connexion with the treatment of fractures, if they depart in any way from the accepted routine, in the event of an action being brought against them on account of a supposed defective result; and also the incapacity of the ordinary tribunals to decide questions involving these lesions in connexion with the Workmen's Compensation Act. Sir John Moore records a series of interesting clinical experiences, including cases of pneumonia and enteric fever, and one of staphylococcal septicæmia, which improved under vaccine treatment.

New Inventions.

A HOOK TO RETRACT THE ANTERIOR FAUCIAL PILLAR DURING "MORCELLEMENT" OF THE TONSIL.

THE numerous observations about the alarming hæmorrhages that follow the removal of the tonsils with the guillotine have contributed to extend the practice of morcellement of the tonsil with suitable forceps. This method is very easy to execute, it being possible to avoid bleeding and pain with the new chemical substances for local anæsthesia. The forceps used for "morcellement" exercise not only a cutting, but also a crushing action, which reduces and hinders hæmorrhage. In order to simplify the grasping of the tonsil a hook is often used, with which the faucial pillar covering its anterior surface is retracted. With the instrument usually used the faucial pillar is drawn out, but the assistant's hand masks the operation and limits the free movements of the surgeon. I have introduced with the best results a new type of hook, which was made for me by Mr. Spinelli, 2, Mazzini-street, Turin, Italy. The handle is 9 centimetres in length, the shaft 10 centimetres, and the hook 1 centimetre. The end of the instrument is rounded, so as not to damage the mucous membrane. The two portions of the shaft form an angle of 80°. By the use of this instrument the assistant's hand does not obstruct the surgeon. Moreover, the angular disposition of the hook and handle allows only a moderate lateral traction to be put upon the anterior faucial pillar, from behind which the hook does not easily slip.

Turin, Italy. CIRO CALDERA.

A BRISTOL CENTENARIAN.—A Bristolian named John Bevis died on Feb. 6th aged 104 years. He had for some time been an inmate of the "Home of the Sisters of the Poor" in Bristol, where he died.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 18, 1911.

The Value of the Medical Museum.

TIME has again brought round the date of the delivery of the Hunterian Oration at the Royal College of Surgeons of England. There may be some who feel surprise that the College should commemorate every two years by the Hunterian Oration the life and work of JOHN HUNTER, while many other surgeons who in their day were attached to the College, and who performed services of the first importance to the cause of science, receive no such posthumous recognition. On what is this singularity of treatment based? Certainly upon no inclination to underrate the services to science of the other celebrated men who have worked for her in this country; the College, we may be sure, appreciates to the full the great benefits which have resulted to humanity at large from the self-sacrificing labours of many of the surgeons of the past, while the Hunterian orators do not claim that the work done by JOHN HUNTER was of such a kind as to mark him off from all others. But in this particular manner JOHN HUNTER stands pre-eminent—he was almost the first to advocate and practise systematic research either in biology pure or in biology as applied to medicine. He was in our view actually the first to grasp the potentialities underlying an extension of knowledge in the direction of comparative biology whereby the light thrown on disease in man could be made brighter by observations on disease in the lower animals; he was the first to recognise that life and its methods are one both in the lower animals and in man, and to see that the simplest, the most ready, and the most rapid method of advancing our knowledge of the processes of health and of disease in man would be by the systematic observation of these processes as they occur in the lower animals, possibly by creating experimental differences of condition suitable to supply the deficiencies of our knowledge. He recognised long before the days of DARWIN the oneness of man with the rest of the animal kingdom, and saw also that the morbid processes of plants might be similar in nature to, and comparable to, the morbid processes of man himself. Being thus the apostle of experimental and comparative medicine, he fully deserves that the medical profession should record from time to time their sense of obligation to him for what he did and for what he taught. The frequent recurrence of the Hunterian Oration is fully justified.

We do not propose here to refer to the individual discoveries and inventions, great though they were, for which HUNTER was responsible, they have been set out time after time by his biographers; rather we would point to the spirit with which he conducted the work which he set himself to do. He wanted facts. He did not underrate the forming of theories to account for phenomena that had been observed; he himself was ready enough to try to link together the various apparently disconnected phenomena by the chains of theory, and not the less so because he knew that at any moment a theory of itself might suggest the lines along which future researches should proceed. But he objected, and strenuously expressed his objection, to the building of theories without a firm basis. Only too commonly, in HUNTER'S time as before and since, theories have been formed apart from facts, and, again only too commonly, if any attempt has been made to find a connexion between the theories and the facts, the facts have been modified and deformed to accord with the theories. HUNTER insisted on two things—on the need for exact and repeated observation so as to eliminate the possibility of mistakes, and the need for accurate record of the observations made, so that they might be available for reference and comparison at other hands. We know, for we have the testimony of WILLIAM CLIFT, HUNTER'S famous pupil and assistant, that his master made most careful notes of all he did, and his personal records filled hundreds of pages in volumes which are, alas, now no more. The story of their destruction is too notorious to need repetition, but we see from his remaining work that HUNTER was ever ready to give credit to all his predecessors for the observations which they had made and for the facts they had recorded, though he only valued the work of others in so far as it consisted of faithful records of what had been seen and done. Observations of conditions which cannot be repeated have to be received on the mere statement of the observer, but when a condition is capable of experimental production, when its repetition is possible as need arises, it passes into the realm of fact. HUNTER knew this, but he knew also that it was possible to record observations so that the basis of any statements made concerning them could be readily seen, and it was to accomplish this purpose that he formed his museum. Before his time pathological museums must have been so comparatively small as to be quite unimportant. Few public bodies possessed museums of any form relating to science. The early lecturer on medicine or surgery at the medical schools generally possessed "a museum" for his own purposes, but such "museums" were as a rule small, and not necessarily made up of interesting specimens from cases which had fallen under the observation of their possessor. These collections were sets of objects for teaching and were often sold to his successor by the lecturer when his time came to cease giving lectures. HUNTER was the first to conceive the idea of a scientific museum in the modern sense, and to see that in such an institution there might be collected a tangible and largely indestructible basis upon which to rear pathological structures of all sorts. He endeavoured to bring together specimens of every sort illustrating facts in zoology, botany, and human anatomy, showing diseases of various kinds whether occurring in men, in animals, or plants. His specimens were not merely those which he prepared for himself or which came in his way in the course of his practice as a surgeon; he demanded and obtained for his great scheme the interest and collaboration of many other observers. His oft-quoted letters to EDWARD JENNER form but one series of correspondence which he had

with many friends in many parts of the country. Each one he employed to find, so far as time and opportunity would permit, specimens for his museum and to collect facts for his general work. When any point seemed doubtful and he was unable to fill up for himself the lacuna in his arguments he would write to one or other of his correspondents and entreat them to observe the facts or to ascertain the truth of some previous report. But he spared not himself. Working early and late, rising at daybreak and going late to rest, he devoted every moment not absorbed by his professional work to the perfecting of his museum. Successful as he was in practice, he valued that practice mainly for the power which it gave him to enlarge his museum and thus to gain more systematic knowledge; and the spirit with which he himself worked he inculcated in others. He asked no one else to do what he was not able and willing to do himself to aid in the discovery of the truth and the augmentation of human knowledge. HUNTER died poor. Apart from his museum and his notes he left almost nothing; and by his will we know that he looked to the purchase of his collection by the Government to provide for the family which he left behind him. And though it was a time of war, of storm and stress, and of enormous calls upon the public funds, the Government even of that day, with claims upon it whose urgency we in these softer times can hardly guess, was able to spare the small sum required to buy HUNTER'S museum.

And so it came to pass that the Hunterian Museum, great beyond all comparison in HUNTER'S day, was a few years after his death entrusted to the keeping of the Royal College of Surgeons of England, a State trust as the President of the College has pointed out. On the basis of JOHN HUNTER'S museum the authorities of the College, assisted by such conservators as WILLIAM CLIFT, RICHARD OWEN, JOHN QUEKETT, WILLIAM FLOWER, CHARLES STEWART, and ARTHUR KEITH, have formed a collection of human anatomy, both normal and pathological, of comparative anatomy, both of plants and animals, far surpassing any similar collection in the whole world. JOHN HUNTER'S museum was large—enormous for his time and for the work of one man—but the museum of the Royal College of Surgeons of England is the greatest collection of its kind in the world; its completeness and its value can only be appreciated by a careful and prolonged inspection. At a large total cost of money, during the many years which have elapsed since the museum was first entrusted to its care, the College has nourished the collection as it deserved to be nourished; it has been liberally supplied with funds, and above all things it has been wisely and jealously supervised. For all who are capable of knowing good work when it is done, of appreciating the value to science of such a collection as the museum, must acknowledge that the College could not have done more than it has done: it could not have more worthily carried out the work it has undertaken. What would have been the surprise, the pleasure, and the pride of JOHN HUNTER if he could but see the museum into which his own collection has grown. Mr. EDMUND OWEN'S oration on last Tuesday (see p. 417) was what those who know him might have expected; it was a clear, forcible, and eloquent picture of the greatest of biological teachers, one of the most original of British surgeons, and the first real exponent of the value of the experimental methods in medicine.

The Education of Crippled Children.

THE national importance of the medical profession is perhaps in nothing more evidenced than in the fact that its outlook and scope have long ceased to be limited to the alleviation of individual suffering, or even to the prevention thereof by the inculcation of personal hygiene; that they have over-passed even the field of disease-prevention in the present by stimulating to effective action the public perception; that as each man's well-being depends not only on his own obedience to the laws of health but on that of others also, each has an interest in the healthy living of all, from which perception has arisen scientific sanitation; and that now these energies are directed to the guidance of the recently awakened public foresight in securing the utmost physical, mental, and moral efficiency for the coming race. In warfare every disabled soldier not only robs the fighting line of an effective unit, but if he remains in it he hampers and impedes the efficiency of the remainder. A wise general, therefore, looks for the prompt removal of such to the rear outside the sphere of action, where he may, if possible, be promptly restored to the effective strength in the field or, failing that, be cared for at the least possible tax on the effectiveness of the fighting force. Life, not only the life of the individual, but still more the life of a nation, is a warfare, and those who are born physically below the average, or who become so in their earliest years through the ignorance or indifference of those on whom they are entirely dependent for care and support, are the nation's future non-effectives. For this reason the adjustment of their relation to the education system, whereby each individual is trained ultimately to play his part in the nation's warfare, is highly important.

In a recently issued pamphlet, "The Care of Invalid and Crippled Children in School,"[1] Mr. R. C. ELMSLIE has republished a series of five lectures, the first of which was delivered in the course of advanced school hygiene at University College, London, the other four having been delivered to the school nurses attached to the London County Council invalid schools. They are now modified in detail and somewhat added to to suit a wider public than that for which they were originally written. While all the lectures are of public utility, the first especially is of far-reaching significance and deserves to be widely read. The writer aims to define the term "physical defect" as applied to school children and as used in the Elementary Education (Defective and Epileptic) Act of 1899. In this term he would include, not only all deformities and diseases of the bones, joints, and spine, which obviously cripple the child, but also all general defects of physique and chronic illnesses, anything which continuously interferes either with

[1] The Care of Invalid and Crippled Children in School. By R. C. Elmslie, M.S. Lond., F.R.C.S. Eng., Medical Officer (Invalid Schools) London County Council Education Committee. London: The School Hygiene Publishing Co., Limited. Price 1s.

attendance at school or with the ability of the scholar to follow in full the ordinary school routine. The duties of the school medical officer he divides into separating such children, supervising them, whether in ordinary or special schools, both at work and at play, advising their natural guardians when treatment is necessary, and supervising the instruction that may properly be given to them. Much has already been done to provide education under suitable conditions for certain classes of such subjects, but the great need is for the provision of resident hospital and sanatorium schools, where children who require prolonged hospital care (as, for instance, in the case of orthopædic patients or subjects of bone tuberculosis), children during prolonged convalescent treatment, or phthisical children, can have their education carried on simultaneously with proper physical care. Mr. ELMSLIE very cogently points out, in answer to an objection which is sometimes urged, especially in regard to the education of permanently crippled children—viz., that they are of no value to the community, and that by helping and educating them we are enabling them to survive and perpetuate their defects in their children—that they do survive whether we help them or not, and that by training them to make the most of themselves in spite of their limitations we lessen the burden on the community through workhouses and infirmaries; and, secondly, that in most cases such defects are acquired, and in the present state of our knowledge the inheritance of acquired defects is to be regarded as not proved and improbable. The early admittance of children to schools and the careful medical inspection of infant schools would lead to prompt discovery during the remediable stage of many cases of tuberculous bone disease, for these frequently originate before ordinary school life starts, when the vagueness of the accompanying phenomena (which by no means generally include, as is commonly supposed, easily recognisable characters, such as pain and deformity) makes the conditions appear trivial to the parents. Finally, crippled and defective children, more than others, especially need an efficient technical training to minimise their disabilities and enable them to compete with the healthy and well-informed; and the earlier manual instruction is given the more easily is dexterity attained, so that the loss of many initial years in elementary education is an even greater drawback to the defective than to the normal child.

The After-Care Association.

THE annual meeting of this society was held on Feb. 8th, under the presidency of Mr. H. D. GREENE, K.C., one of the honorary Commissioners in Lunacy—a notable incident, because persons of such delicately and importantly responsible positions do not often preside over esoteric functions. The presence in the chair of a Lunacy Commissioner on this occasion gave the cachet of recognition and authority to an institution founded and maintained in a true philanthropic spirit, and affords us a reason for bringing before our readers in a prominent manner its very valuable design. The association had a very small beginning in the year 1869—though it was not until 1897 that it assumed a corporate form—when the Rev. HENRY HAWKINS, at that time the learned chaplain of the Colney Hatch Asylum, put into active motion an idea he had formed of the advantage, even the necessity, of following up some of the persons discharged as cured with the view of aiding them during the period between the return to home and the capacity for resuming occupation. Mr. HAWKINS'S idea was only slowly taken up, but through dint of his advocacy, aided by the persistent efforts of the great Lord SHAFTESBURY, Lord MEATH, a few medical men, and an energetic band of ladies, the movement attained considerable *vis viva*, and it now is generally recognised as a charity with great scope of usefulness. Owing to the pressure on accommodation in the county asylums it is necessary to discharge "recovered" patients as soon as possible, but there is no doubt that in many instances the "recovery" is not firmly established; it may be technically true, but it does not satisfy the ideas of those who know all about the case and are familiar with the relapses that so frequently occur in those whose convalescence is prematurely interfered with through having to return to work at once without having gone through an annealing process, so as to become tempered to the arduous surroundings of their avocations after leaving the fostering care of the institution. There are many other reasons why "recovery" in these discharged cases is only a comparative term. Patients, with the concurrence of their friends, are anxious to get free from the appanages of restraint, however graciously they may be exercised; they think that the shorter the time they are away from home the less serious will their illness be thought to have been; they know that in their absence the rest of the family is reduced to straits which make it imperative that they should resume at the earliest date the care of those from whom they have been sequestrated. And then again, there is a legal difficulty in detaining in an asylum persons who have technically become well mentally, even though it may be well known that the repair to the breach of continuity is of a very fragile nature and may be easily disrupted unless time is given for its consolidation.

The outside public views with distrust the employment of persons who have just been discharged from asylums; if they knew that a period of probation had elapsed between the time of leaving the institution and that all had gone well in the meantime they would have more confidence in resuming relationships. So cognisant of the advantages of a probationary interval are the authorities of many asylums that they actually do discharge for varying lengths of time, granting money allowances in the meanwhile, many patients who are really free from the symptoms for which they were originally detained, but who are not thought sufficiently recovered to resume work at once; but it must be remembered that during the period of "absence on trial" these people are still considered to be "patients" and remain under the force of their certificates, whereas under the auspices of the After-Care Association they are unfettered and have full sense of responsibility. As an economic factor this association has been of much use in preventing early convalescents from relapsing, thus becoming again chargeable to the rates and going through the misery of

a second attack. In this connexion it might be worth consideration by the Poor-law authorities how far they could expand or adopt the scheme of the After-Care Association, and so form as convalescent homes for their just recovered cases judiciously chosen places where, free from the incubus of certificates, a short time could be spent in perfecting a process barely completed. Private benevolence has often preceded State interference and shown the necessity for it; and under some such plan, though there would be a small extra burden on the rates, a saving would ultimately accrue owing to the diminished number of relapses, whilst the proper care and the support of the family would be ensured on the return home with much greater certainty of permanence than there is at present. These homes would be almost self-supporting, because if aptly chosen (and they need not be large) the smallest amount of supervision would be required and the necessary in- and out-door work would be done by the residents.

A further extension of the sphere of the After-Care Association is that for small weekly sums the bureau nominates houses into which can be received persons whose faculties are not quite up to the average, but yet who are capable of being usefully employed and made comfortable when superintended by people who have had previous experience in this direction. At one of the meetings a member of the association recommended that there should be a fore-care scheme as well as an after-care for persons who were on the verge of an illness which might be made abortive by some timely retreat. Such a scheme is feasible; it would make possible to the poor what is at present almost entirely confined to the well-to-do classes—viz., the privilege of being "voluntary boarders," an arrangement by which numbers of people get well without the formality and the odium of certificates. A boarding-out system has never found great favour in this country, but it has great potentialities, and we look forward with interest to see whether the After-Care Association can act as pioneer in a movement of this description, as it has certainly been in procuring aid for convalescents whose chances of permanent soundness were before imperilled. There are many ways of assisting necessitous people besides grants of money, and one of the salient features of this association is that by personal and particular supervision the individual's needs and powers are thoroughly understood and catered for. Most of the medical superintendents of asylums, than whom none know better the danger of exposing just recovered patients to the worries attending the restarting the machinery of social obligations, are active members of the association and have developed branches in the different counties with which they are chiefly concerned. In the absence of extraneous support of any kind the society is dependent on voluntary contributions and on the precarious amounts contributed by the committees of asylums who avail themselves at times of the resources which have been exploited by this band of charitable workers, but we think that a far greater development of the work is possible. A rich person in search of a movement which for its expansion requires a large donation could not easily find an object fraught with greater advantages to a particularly unfortunate class of people than by giving support to this humanely conceived organisation. The Commissioners in Lunacy have always strongly supported the claims of the association, to which, indeed, they hand on certain moneys, called the Commissioners' Fund, which are at their disposal for purposes similar to those of the association.

Annotations.

"Ne quid nimis."

SCHEDULE FOR SCOTTISH CENSUS OF 1911.

BY the courtesy of the Registrar-General for Scotland, we have received a copy of the Census schedule which will be distributed to the householders of Scotland on the appointed day in April next. As we have not yet seen either the English or the Irish schedule we are uncertain to what extent uniformity will be observed respecting the details of information demanded in the three divisions of the United Kingdom. But, from a cursory examination of the document before us, we assume that some modification at any rate will be needed in order to adapt the questions to the local requirements of England and of Ireland. We note that in the Scottish schedule the names of certain occupations are included which are peculiar to Scotland. For example, the terms "United Free Church Minister," "Episcopalian Clergyman," "Crofter fisherman," "Crofter road surfaceman," would hardly appear in an English or an Irish schedule. Again, the attempt to ascertain the proportion of the population speaking Gaelic alone, or Gaelic and English together, would scarcely be made on this side of the Tweed. On one point in particular the Registrar-General deserves congratulation. Under the heading "particulars as to marriage" he has inserted several columns designed to ascertain the degree of fertility among married women. Thus the householder or head of the family is requested to state, with respect to each married woman entered in the schedule: (1) The number of years elapsed since marriage; (2) the number of children born alive; (3) the number still living. If these facts can be ascertained with approximate accuracy it is obvious that material will be available for the investigation of problems regarding fertility and fecundity which will prove of great sanitary as well as economic importance. We trust and believe that similar information will be forthcoming for the other divisions of the United Kingdom. One word by way of criticism. We observe that the whole of one side of the Census sheet is occupied by the schedule itself, and that on the back of the sheet a large number of "instructions" are printed for filling up the columns headed "profession or occupation." After careful perusal of the schedule we confess that we ourselves should have difficulty in filling up certain of its columns, even with the help of the appended instructions; and we doubt whether the majority of working-class householders upon whom the duty is imposed will fully realise their responsibilities in this regard. When Dr. Grimshaw was Registrar-General of Ireland the schedule was directed to be filled up, not by the often illiterate householder, but by the enumerator, who was usually a police officer. It was Dr. Grimshaw's deliberate opinion that the Irish system led to the making of Census returns infinitely more accurate than could be hoped for under either the English or the Scotch system then in vogue, which was that of relying upon the sagacity of the average householder or head of a family. We shall be interested to observe how the difficulty to which we have referred is dealt with in Scotland.

THE PERAMBULATING ORGAN AND THE DECOY CHILD.

CHILDREN carried upon organs played in the streets are frequently an object of commiseration to passers-by, more particularly in weather as cold as that which has recently prevailed, and pity for the child no doubt often takes the somewhat illogical form of pence bestowed upon the persons in charge, who are presumed to be destitute parents. The practice is one which all must condemn on the child's account, and many will sympathise with the child and the constable referred to in the recent newspaper reports of a prosecution at the Marylebone police court. In this instance it may be that the charge was not rightly framed, but the result appears unfortunate. A constable arrested a man and woman who were playing an organ in the street with their child, aged 21 months, with them, the child being described by the constable as seated in a box and "shaking with cold." Mr. Plowden, before whom the parents were brought at the Marylebone police court, observed that "there are a number of people who derive pleasure from hearing an organ," to which the constable replied by calling attention to the presence of the child, when Mr. Plowden answered, "Well, there is no harm in people having a child with them." The constable: "But it was cold." Mr. Plowden: "We all suffer from that. It is legal to play an organ if no one objects. There is absolutely no reason for charging these people." It may be, as has been suggested, that the charge on which the parents were brought before the magistrate was one which could not be sustained, but it is difficult to agree with the apparent meaning of the magistrate that there is no harm in conduct such as that described. It would also seem to come near to justifying a charge of exposing a child in a manner likely to cause unnecessary suffering or injury to health under the twelfth section of the Children Act, 1908, or, perhaps, under the fourteenth section of the same Act, for that children carried about by organ-players are so treated, as a rule, in order to increase their "earnings" can hardly be questioned. The fourteenth section is as follows:—

(1) If any person causes or procures any child or young person, or having the custody, charge, or care of a child or young person, allows that child or young person to be in any street, premises, or place for the purpose of begging or receiving alms; or of inducing the giving of alms, whether or not there is any pretence of singing, playing, performing, offering anything for sale, or otherwise, that person, shall on summary conviction, be liable to a fine not exceeding twenty-five pounds, or alternatively, or in default of payment of such fine, or in addition thereto, to imprisonment, with or without hard labour, for any term not exceeding three months.

The people who derive pleasure from hearing an organ presumably enjoy the same sensations when the instrument is played by a man unaccompanied by his wife and by an infant "shivering with cold," and when he takes these with him it is not unreasonable to suggest that he does so in order to excite sympathy, or in other words to attract alms. It is possible, however, that the fourteenth section is only intended to apply where the child takes a more active part in inducing the giving of alms than it does when it "sits in a box," and that the pretence of playing must be made by the child itself and not by persons who accompany it.

PREVENTION OF PAIN AFTER AMPUTATION BY THE INJECTION OF SOLUTION OF QUININE.

THE value of quinine as a local anæsthetic is only beginning to be recognised, and this is strange, for the drug itself has been known 90 years. In the January number of the *American Journal of Surgery* occurs an article by Dr. V. Pleth and Dr. V. W. Pleth of Seguin, Texas, on the value of a solution of quinine for preventing the pain in the stump after amputation. It is used as follows. When the amputation is completed and the vessels tied the solution of quinine is injected into the main nerves and around them, and after the wound is closed about three ounces of the solution are injected into the tissues composing the stump. The patient suffers no post-operative pain. The solution employed consists of a 0·5 per cent. solution of bisulphate of quinine. The treatment appears to have no injurious influence on the tissues. The application of the drug has also been extended to the treatment of fractures. With a strong gold-plated needle the quinine solution is forced in between the fragments of the fracture and several syringefuls are also injected around the fracture, and in about 15 minutes reduction can be made without causing pain. The writers have also used quinine in operations on the rectum for fistula, hæmorrhoids, and fissures. Severe pain following rectal operations is in this way obviated. There are several advantages in using quinine for local anæsthesia; it is non-toxic and therefore can be used freely; it can be sterilised by boiling without losing its efficacy; and, lastly, it is cheap.

THE INTERNATIONAL HYGIENE EXHIBITION, DRESDEN, 1911.

AN organisation which aims at success must satisfy public opinion in several respects. In the first place the promoters must produce evidence of capability and earnestness. In the second they must deliberate with care, and expend time, energy, and money in casting their mould and in laying their foundations. Next there must be proof of the importance to the public of the undertaking, and, lastly, means must be adopted to inform the public of the details of the scheme. The administration of the International Hygiene Exhibition, Dresden, 1911, has fulfilled all these conditions, and we may safely assert that success is assured. The promoters include the most eminent scientists in the German Empire; each committee (and there are many) is doing real earnest work, carefully planned and maturely developed, and expenditure is not begrudged in accomplishing this work. We have on previous occasions pointed out in THE LANCET the educational and scientific importance of this undertaking to mankind. With regard to publicity also the administration has left nothing to chance. For the past 19 weeks a two-page pamphlet called "Hygieia" has been issued widely, in which the reader is informed of the progress of the exhibition preparations and in which his interest in the various branches of hygiene and public health is awakened and kept awake by skilfully penned popular articles. We have now before us the first issue of a more enterprising publication which is to appear in monthly numbers and which bears the title "Hygiene." The contents of No. 1 are varied, interesting, and instructive, and include a brief historical account of the development of the exhibition; an article on the architecture of the buildings now in the course of erection, which will reflect credit to the 21 skilled architects who are devoting their time and energies to the task; a brief account of some of the congresses which are to be held in connexion with the exhibition, and a number of illuminating essays on subjects which will be dealt with. The publication is well got up and most excellently illustrated. Attention may be directed to the picture of the Russian Government Pavilion which in true national architecture promises to be a great feature of the exhibition. Close to this building the French Government is to erect the French National Pavilion, while the space between—the choicest site of all—is still being reserved for the British Pavilion. It is a deplorable fact that our Government has not accepted as its duty the task of erecting and equipping this building, but thanks to the conspicuous energies of the British National Committee,

and particularly of Sir Thomas Barlow, the chairman, and Lord Ilkeston, the treasurer, there is good prospect that the sum required to carry this project through without the Government will be collected in time. Support has already been received from several corporations, notably those of Glasgow, Manchester, and Liverpool, from several of the City Companies, and from many prominent scientific firms. Much still remains to be done, and there is but little time to do it; but now that nearly one-third of the amount has been secured the officials are confident that the remainder will be forthcoming. The appeal which is being made calls on all to subscribe small or large amounts to uphold the reputation of Great Britain as the pioneer and leader in hygiene and to further feelings of real friendship between England and Germany, which have already been questioned by the German press. Cheques should be made payable to Lord Ilkeston, treasurer of the British Executive Committee, International Hygiene Exhibition, and sent to 47, Victoria-street, London, S.W.

HÆMOLYTIC JAUNDICE WITH HÆMOGLOBINURIC CRISES.

To the brief series of cases hitherto recorded in which the production of jaundice associated with paroxysms of hæmoglobinuria has been traced to hæmolysis an important addition has been made by Dr. A. A. Hijmans van den Bergh of Rotterdam, and recorded in the *Revue de Médecine* for January. The subject of this observer's investigations was a man aged 47, whose family history was innocent of any similar event and who had never suffered from any serious illness. In 1899 he first consulted a medical man on account of an attack which was pronounced to be a catarrhal jaundice, though the fæces were normal in colour and the urine contained much urobilin but no bilirubin. In 1904 he expectorated blood, but no other evidences of pulmonary disease were manifest. The first bout of hæmoglobinuria occurred in 1905, and since that date the attacks have returned at irregular intervals and with a widely varying intensity. No cause for these attacks could be discovered; they were not confined to cold weather and they did not follow the ingestion of any particular food. They lasted one day in some instances, in others several days. Each attack was accompanied by an aggravation of the anæmia and jaundice, which persisted in some degree even between the attacks, by a sense of oppression in the præcordium, and by pain referred to the hypogastrium during the passage of the hæmoglobinuric urine. For some days after a paroxysm the urine contained albumin and casts. The excretion of urobilin, always supernormal, was also increased during the attack and immediately after it. The spleen was not enlarged. Examination of the blood showed a hæmoglobin content of 50 per cent., an erythrocyte count of 2,970,000 per cubic millimetre, and a corpuscular picture characterised by no changes other than those of a secondary anæmia. In one of the attacks the hæmoglobin stood at 40 per cent. and the red corpuscles at 1,156,000 per cubic millimetre. The patient's corpuscles showed a normal resistance to the ordinary hæmolytic tests, and at the same time the serum was proved to contain no abnormal hæmolysins. Dr. van den Bergh therefore had recourse to certain methods of hæmolysis which he had found useful in the investigation of hæmoglobinuria "a frigore." These experiments yielded results of some interest. The first series of tests showed that the corpuscles of the patient were destroyed by the patient's serum and also by a normal serum at body temperature in the presence of carbon dioxide vapour, but not in the presence of air or at laboratory temperature (except in one test where the normal serum exercised a hæmolytic action at 16° C. in the presence of CO_2). Another series of similar tests gave the same result as far as the action of the patient's serum was concerned; but the control serum showed a hæmolytic action in air or in CO_2 at 16° C. as well as at 37° C. These experiments prove that for the case under consideration the hæmolytic factor was corpuscular fragility; and they suggest the advisability of further investigations bearing on the activation of this tendency to hæmolysis such as was achieved in Dr. van den Bergh's experiments by the substitution of carbon dioxide for air, and the use of a temperature raised to that of the body.

A FALLACY ABOUT COFFEE.

IN looking about for an explanation of the recent cases of poisoning at Dalkeith, in which the poison was conveyed through drinking coffee, the suggestion has been made and widely circulated that there is a certain coffee-bean which in given circumstances throws off a deadly poison. This information will come as a surprise to all toxicologists. We know of no such coffee-bean, and we very much doubt its existence. It is a great pity that newspapers cannot guard themselves against such statements. The confidence of the public is thereby seriously disturbed and a needless fear is sown in their minds. Apart from scientific investigation, the evidence of experience is completely opposed to the notion that sometimes coffee beans are met with which give off a deadly poison. If coffee contained a volatile poison at all in the sense that the original disseminator of this scare probably had in his mind, it would be thrown off obviously in the roasting. As is well known, a strong infusion of coffee has proved most useful to counteract the effect of poisons, and its use is particularly enjoined when an overdose of a narcotic—e.g., morphia—has been taken. Coffee, in common with most articles of food, may disagree with some people, who soon find that fact out and take care to exclude it from their dietary. But it is innocent of poison and to a great number of people is an undoubted boon. Such people may continue to enjoy their favourite beverage without the slightest fear that for some mysterious reason Nature makes some of the beans poisonous. The widespread publication of the fallacy has been most unfair to the public, besides constituting an obvious injustice to the coffee trade.

THE TREATMENT OF INCIPIENT PHTHISIS IN EAST LONDON.

IN a report recently presented to the Public Health Committee of the Borough of Poplar, Mr. F. W. Alexander, the medical officer of health, has suggested a scheme for preventing the spread of tuberculous infection, and benefiting, with the hope of curing, cases of pulmonary tuberculosis in subjects who have work to do and are able to undertake it. He suggests the purchase of two or more large houses in the borough with open spaces in the rear, so that huts may be erected in the grounds, and the rooms of the houses utilised for open-air treatment by adaptation of the windows for such a purpose. The rooms could be fitted with apparatus for keeping the air charged with ozone, and used by persons in the incipient stage of phthisis for sleeping purposes at night, whilst attending their work during the day. A short time ago Mr. Alexander put forward a proposal for the purchase by the local public, as a memorial to the late King Edward, of the City of London Union Infirmary (now disused), a building standing upon five acres of ground, conveniently situated in a main thoroughfare of the East-end of London, immediately upon the borders of the boroughs of Poplar and Stepney and within easy reach of Bethnal Green, Hackney,

Shoreditch, and West Ham, which could be used for such a purpose. It is unfortunate that so eminently practical a proposal has not received the local support necessary to put it on foot, for the building might be used also as a tuberculosis dispensary. A combination of the early notification of phthisis, with in suitable cases its immediate treatment, together with good hygienic sleeping accommodation, each patient under his own medical adviser, seems a promising method of capturing and dealing with incipient phthisis amongst men in full and active employment, whom the hospitals and consumption sanatoriums do not reach.

THE CLIMATIC ADAPTATION OF THE IMMIGRANT.

RACE adaptation to climate has received at various times considerable attention at the hands of Major Charles E. Woodruff, of the Medical Corps of the United States Army, whose views on the question of the harmfulness of excessive sunlight to blondes have met with much opposition, though he appears to have adduced not a little *primâ-facie* evidence in their support. Probably the truth lies, as usual, midway between two extremes. In the *Eugenics Review* for January, he writes some interesting remarks on "The Eugenics of Migrants." He there points out that a character that is of indispensable value in one environment may be so injurious in another that migrants promptly perish. Nearly every species is limited to a very restricted environment, and those which change residence with the seasons are really more restricted than those able to stay behind and resist the changes of weather. The medical profession, he says, is only just beginning to realise that man himself is governed by the same laws of adaptation, and that each type has developed characters which fit it for residence in the place of origin. Four factors in the past have influenced migration. In the earliest times movement was naturally slow, so that evolution could proceed *pari passu;* then social organisation added its prevention of invasion. Later, however, military organisation caused rapid migrations, which have become greatly increased by the rapidity of modern transportation. Major Woodruff discusses adaptation as shown in alteration of pigmentation and weight, and cites the disappearance of the type of northern invaders from the southern lowlands of Italy—of the men, that is, from the north, who were the real authors of the Italian renaissance, the significance of whose Italianised names is often contradicted by their extant portraits. He alludes also to the experience of America, where the blonde type, of which the women sent over from Northern France almost entirely consisted, has nearly disappeared from the St. Lawrence Valley, and entirely so from New Orleans. The blondes in American cities and lowlands, he says, have a higher death-rate from certain diseases than the rest of the population, and tend to disappear, while those in the mountains remain vigorous after many generations. Nature herself carries on among migrants the expensive eugenic movement of killing off the least adjusted. In the meantime those on the way to extinction are less able to struggle for existence, and so furnish more than their due proportion of social parasites. This is the point that must be considered in all eugenic discussions. Migrants should strive to have their children reared in a climate proper to their racial characteristics, even though they themselves have to live elsewhere—a fact with which Anglo-Indians have become familiar years ago. Major Woodruff suggests an investigation among the "failures," the "submerged tenth," in London and all large cities, not only of Europe, but also of America, Africa, and Australia, to decide their prevailing characteristics in each case—whether tall or short, light or dark, over- or under-weight. This may demonstrate that certain types are locally on the way to a final elimination that cannot be prevented by eugenics. He alone is *eugenes*, well-bred, who is of the type adjusted to the place, and the migration streams must continue until each type finds its proper adjustment. The production of a higher mental type depends probably, at any rate in great degree, on first acquiring a physique perfectly adapted to its climatic environment.

THE ACTION OF DRUGS.

IN a paper read at the February evening meeting of the Pharmaceutical Society Dr. W. E. Dixon, professor of materia medica and pharmacology at King's College, London, discussed the action of various drugs, the object of the paper being to explain the purpose of the pharmacological notes in the British Pharmaceutical Codex. He said that few drugs had attained more popularity lately than compounds of calcium, but if a calcium effect is really needed the drug must be injected under the skin. Similarly, the specific effects of potassium or ammonium salts could only be produced in this way, since their rates of elimination could more than keep pace with their absorption. The local application of opium or morphine in any form was harmless, though of little value in relieving local pain, since the seat of action of morphine was on the central nervous system. Proceeding, he said that quinine was not in any sense a tonic; it was rather an atonic drug; it was a poison to all protoplasm and diminished metabolism. Referring to the organic compounds with the metals, he said experiments seemed to show that none of the organic compounds of silver were superior to silver nitrate, and that the organic compounds of iron mostly derived from blood must first be broken down and digested before absorption occurred. These are a few of the examples selected by Dr. Dixon to give some idea of the scope of the pharmacological notes included in the monographs—notes for which, in his view, some need was certainly felt by medical practitioners.

REPORT OF THE DEPARTMENTAL COMMITTEE ON CORONERS.[1]

THIS report, which has just been issued as a Blue-book, contains the evidence of certain witnesses recalled and further examined, together with ten appendices, amongst which are a summary and analysis of replies to questions addressed by the committee to coroners of England and Wales, a memorandum on behalf of the London County Council, a memorandum on behalf of the British Medical Association, and the returns for England and Wales of reported deaths under anæsthetics during 1908. The memorandum on behalf of the British Medical Association, after certain introductory paragraphs, is divided into four parts, dealing respectively with death certification, the procedure of coroners, deaths under anæsthesia, and the question of necessity for inquiry into deaths following surgical operations. The memorandum submits a scheme of death certification providing means whereby a medical certificate of death shall be obtained in most cases not certified by the medical practitioner in attendance, leaving the remainder to be dealt with by the coroners, and points out the defects in the present procedure. Questioned upon this subject, 169 coroners replied that they were satisfied with the present system, and 99 coroners stated

[1] Second Report of the Departmental Committee appointed to inquire into the Law relating to Coroners and Coroners' Inquests, and into the Practice in Coroners' Courts. Part III. Cd. 5492. London: Eyre and Spottiswoode, Limited. Pp. 109.

that there were difficulties and the system did not work satisfactorily. This serious division of opinion among coroners certainly justifies the British Medical Association in its desire for amendment of the laws. In regard to medical evidence as to the cause of death, the memorandum rightly states that it is of two kinds: (1) clinical, and (2) pathological, the former being of especial value in the preliminary inquiry when the coroner has to decide whether he shall order a post-mortem examination, and, if so, who shall be ordered to do this. This is a matter upon which various and conflicting opinions prevail and it has been the cause of much dissatisfaction in particular quarters. The large majority of coroners, 240 out of 275, consider that the selection should be at the entire discretion of the coroner, and of the remainder, 22 are in favour of entrusting the post-mortem examination to an independent expert in all cases (although they do not state that the medical man concerned is not to be called upon to give evidence or to aid inquiry in other ways) and 13 are in favour of employing the medical attendant to perform the post-mortem examination. The suggestion contained in the memorandum that the coroner's inquest is not a suitable form of inquiry into deaths under anæsthesia, but that this should be carried out in private by a medical officer under the general control of the Home Office, is one of serious importance having regard to the number of cases in which a coroner's jury brought in a verdict of "misadventure" or "accidental death," details of which are given in Appendix IV. of the report. The memorandum of the London Council is lengthy and deals with many controversial matters which cannot be briefly commented on, but, together with other matters contained in the report not of such immediate medical interest, it will be reviewed in detail in a forthcoming issue of THE LANCET.

SIX Hunterian lectures on the Fossil Remains of Man and their Bearing on the Origin of Modern British Types will be delivered in the Theatre of the Royal College of Surgeons of England, in Lincoln's Inn Fields, by Dr. Arthur Keith, Conservator of the Museum, on dates already announced.[1] These lectures are designed to serve as an introduction to the study of the anthropological collection in the Museum of the College, and will be illustrated by means of the epidiascope. The subject will be considered under the following heads:—The fossil human remains found at Galley Hill, Kent; reconstruction of the remains; similar discoveries made at home and abroad; persistence of the type; the Heidelberg mandible; the extent to which a reconstruction of the individual may be effected; pithecanthropus; its discovery, nature, and relationships to human races; the Gibraltar skull; its discovery and bearing on the evolution of man; the Neanderthal race; recent discoveries in France; the bearing of acromegaly on the characters of this race; Huxley's "river-bed" type of ancient Briton; recent and old discoveries of this type; the relationship of the type to ancient and modern forms of Britons; recent discoveries of ancient human remains in Kent, Essex, and Herts; summary of the geological evidence relating to the origin of modern types of man.

IT is announced that their Royal Highnesses the Prince of Wales and Prince Albert are suffering from measles of a mild form. On the outbreak of the epidemic at the Royal Naval College, Dartmouth, they were isolated in the Commandant's house, and it was hoped that they would escape. They have not done so, but the Princes are at the age of least danger, and the important measure of confinement to bed, to the neglect of which so many complications and sequelæ are frequently due, is being enforced. It is to the complications and sequelæ of the disease, rather than to the disease itself, that the danger principally attaches, and these are very largely to be avoided by a proper appreciation of the risks.

[1] THE LANCET, Jan. 21st, 1911, p. 182.

THE lectures of the Royal College of Physicians of London for the present year will be delivered at the College, Pall Mall East, on the following Tuesdays and Thursdays, at 5 o'clock. Milroy lectures on March 2nd, 7th, and 9th, by Dr. A. E. Boycott, on Ankylostoma Infection; Goulstonian lectures on March 14th, 16th, and 21st, by Dr. A. F. Hertz, on the Sensibility of the Alimentary Canal in Health and Disease; Lumleian lectures on March 23rd, 28th, and 30th, by Dr. J. Mitchell Bruce, on a Clinical Study of Cardio-vascular Degeneration; Oliver-Sharpey lectures on April 4th and 6th, by Dr. J. Mackenzie, on Heart Failure.

THE report on the work of the Central Midwives Board for the year ended March 31st, 1910, has been printed as a Parliamentary Paper.

THE anniversary dinner of the Medical Society of London will take place at the Whitehall Rooms, Hôtel Métropole, on Wednesday, March 8th, at 7.30 P.M.

MEDICINE AND THE LAW.

The Liabilities of the Education Authority.

THE burden of responsibility cast upon county councils by their position as the authorities charged with the elementary education of children does not diminish. Children are admittedly liable to injure themselves by accidents from which the most meticulously careful parents, guardians, and teachers are unable to protect them. If a pupil falls and hurts himself in a school playground the school authorities are likely to find themselves mulcted in damages because the accident was directly caused by some obstruction which they might have removed and over which the child tripped, and various accidents of this character frequently expose them to litigation. In a recent case the question of the council's liability arose thus. A vehicle was provided by the Herefordshire county council under powers given to it by the Education Act, in order that children living more than three miles from a certain school might be conveyed to it. A little girl called Shrimpton, not living at such a distance as would entitle her to ride to and from school but well within it, was allowed by the driver of the vehicle, presumably out of pure good nature, to get in and out because it passed her home. One day when she was alighting the vehicle moved on suddenly and she fell upon her head in the road, sustaining injuries for which a jury awarded her £277 against the county council. The council maintained that the person liable, if any, was the jobmistress from whom they hired the vehicle. In the Court of Appeal Lord Justice Fletcher Moulton and Lord Justice Buckley were of the opinion that the evidence at the trial showed no duty on the part of the defendant council of which there had been any breach or neglect, and reversed the judgment of Mr. Justice Channell in the court below, Lord Justice Vaughan Williams dissenting from their view. On appeal to the House of Lords the Lord Chancellor, Lords Halsbury, Ashbourne, Atkinson, and Shaw were unanimously of opinion that the Court of Appeal was wrong and restored the judgment for £277 damages. In giving judgment the Lord Chancellor said that the county council were not under a statutory obligation to convey the child in question to or from the school, but as they did, in fact, convey her they undertook the duty, as they did towards the other children, of providing a proper vehicle and of taking reasonable care of her. The jury had found that the accident had been caused by negligence; the council did not see that proper care was taken and the appeal must be allowed.

MEDICAL INSPECTION AND TREATMENT OF LONDON SCHOOL CHILDREN.

Medical Aspects of the Education Estimates.

THE Education Committee of the London County Council on Feb. 8th had before it the annual estimates of expenditure for 1911-12. The total was £4,981,110, about half of which represented salaries of teachers. The following individual items may be mentioned: meals for underfed children, £89,545; medical inspection and treatment, £39,960; cleansing children, £2205; open-air schools, £1750; special schools—blind, £9915; deaf, £17,415; mentally defective, £56,950; physically defective, £42,480; epileptic, £2440—total, £129,200. Under the head of provisional sums for expenditure not yet sanctioned by the Council were the following items: further provision for dental treatment, £5000; provision for improving the working of the Council's arrangements with the hospitals, £1000; cleansing of verminous children, £2370. On the receipts side of the maintenance estimates were these entries: cost of meals recovered from parents, £905; ditto medical treatment, £550. The general purposes subcommittee, in its observations, said the estimated increase of £26,400 in the cost of school meals was due to the increased cost in the preparation and service of the meals consequent on the decision of the Council to appoint a number of supervisors. The increase of £20,885 under "medical inspection and treatment" was accounted for by the employment of additional school medical officers, and the treatment of children for eye, ear, and skin ailments. The estimate included a proportion of establishment charges not previously made, so that the actual increase was £12,000, of which £4000 represented the salaries of the increased medical staff. The estimate was based on provision for the treatment of 62,000 eye, ear, nose, and throat cases, and 1200 ringworm cases. The hospitals and medical treatment centres at present included in the Council's scheme could provide treatment for some 32,000 eye, ear, nose, and throat cases, and 1325 ringworm cases. The average cost was 4*s*. 6*d*. a case in respect of eye, ear, nose and throat ailments, and 17*s*. 10*d*. for ringworm cases. Of the provisional items of £5000 for dental treatment the subcommittee said that this was included to provide for "further experimental dental surgeries. This sum will also allow of general provision being made for a small portion of the year for all cases of London children requiring treatment." As to the improvement of the working of the Council's arrangements with hospitals the subcommittee said that at present it was not possible to obtain early information from the hospitals as to the attendance of the children, and many ceased attendance before treatment was completed. It was desirable, therefore, to make provision at the hospitals and medical treatment centres for following up cases, and so avoiding leakage. Regarding the recovery of the cost of treatment it was impossible to give any reliable estimate. From January to December, 1910, £185 were actually recovered from parents, but the children's care subcommittee was considerably in arrear with the assessment of charges. On Feb. 14th the Council approved a supplemental estimate of £23,800 in respect of feeding necessitous children, bringing the allowance under this head to £88,092 for the current financial year.

New Medical Appointment.

The Special Schools Subcommittee has presented a report in favour of placing the medical officer (education) formally in charge of the medical arrangements at the Council's special schools of all kinds, the local medical officers being instructed to communicate with him in all serious cases of illness and on medical matters affecting the schools. There was no reason why the scheme of sight-testing in force in ordinary schools should not be applied to schools for the deaf and physically defective, especially in view of the need those two classes had of preserving their eyesight if they were to become self-supporting, and the subcommittee was of opinion that this should be done. Owing to their unreliability under test it would not be desirable to apply the scheme to schools for mentally defective. The question arose of the additional medical staff necessary to carry out the work. The subcommittee calculated that it would be necessary to appoint additional staff to the extent of 189 sessions per annum (nearly one and a half quarter-time medical officers). The Council on Nov. 1st, 1910, has decided that there should be more detailed and frequent examination of children in special schools, and sanctioned the appointment of two additional quarter-time doctors for the work, but as this was the minimum staff required to carry out the wishes of the Council, no part of it could be employed to examine cases for admission. For supervision of medical matters in special schools an additional quarter-time assistant medical officer would be required, but rather than appoint the equivalent of two and a half quarter-time officers the subcommittee thought it would be better to abolish one of the present quarter-time posts and appoint a full-time officer as medical examiner under the Elementary Education (Defective and Epileptic Children) Act, 1899. This post would be of a grade somewhat lower than that of full-time assistant medical officer, but higher than that of a school doctor, and a suitable man could be obtained for a salary of £400 a year, rising by annual increments of £25 to a maximum of £500 a year. The proposal was approved except that "medical officer" was substituted for "medical examiner."

Difficulties Arising out of the Medical Treatment Scheme.

The Children's Care Subcommittee, in a long report, dealt with the whole question of the charges to parents in respect of the medical treatment of their children. The experience of the past year, it was stated, showed the scale by which remissions were calculated to be too complicated. (This scale took a "standard family" as consisting of two adults and four children, and went into such detail as to grant remissions varying by a penny or two as between a man having 22*s*. 6*d*. and one having 25*s*. per week.) The administration of this scale had been "a source of considerable difficulty." It had also to be stated that as prior to the arrangements made by the Council necessitous parents were able to obtain free treatment at most of the hospitals, many of them regarded the Council's arrangements as an interference with what they considered to be their rights and privileges. At the present time the work of assessing charges was seriously in arrear—out of 14,000 cases treated only 7000 had been assessed. Care committees objected to having to go through the trouble of assessing and presenting claims to parents where there was no intention to recover. Some care committees had declined to undertake the work at all. From the point of view of the hospitals it was contended that the fact that the Council made a charge to parents was likely to have a prejudicial effect upon subscriptions. Many subscribers contributed to the funds of a hospital because they were desirous of assisting poor people to obtain treatment. Many hospitals were constituted as institutions to provide "free treatment for the sick poor," and this had prevented certain of them from coming within the Council's scheme, and was understood to be the chief consideration which influenced the authorities of St. George's Hospital to withdraw from the scheme. Another difficulty arose in connexion with the Hospital Saturday Fund, 75 per cent. of which was obtained as the result of small sums contributed by employees in workshops and factories. Since the adoption of the Council's scheme certain of the hospitals—a relatively small number—had declined to accept in some instances Hospital Saturday Fund letters from children and had required a Council voucher instead. The supply of this voucher involved a charge to the parents by the Council. Parents who were subscribers to the fund considered that they made two contributions for the treatment received under the arrangements made by the Council.

Having regard to these considerations, the subcommittee thought the existing arrangements in respect of charges for medical treatment should be discontinued. It was not prepared to substitute a classification suggested by the Finance Committee on the following lines: (1) parents able to do so to pay the full amount; (2) parents able to pay only part of the cost, to pay a definite fixed amount; and (3) parents unable to pay anything to be exempted. This scale to apply to dental treatment, 1*s*. being charged where parents were only able to pay part of the cost. Such a system would not obviate detailed inquiries into the circumstances of parents or lessen to any appreciable extent the work of the care committees or obviate the other difficulties to which attention had been drawn. The subcommittee proposed that a uniform charge of 1*s*. should be adopted for the complete treatment

both of medical and dental cases, no charge to be made in necessitous cases or in cases where after careful inquiry it was ascertained that the parent had been accustomed to subscribe to the Hospital Saturday Fund or had any other legitimate claim to free hospital treatment.

The recommendations were approved, but a proposal to remit all existing arrears in order to relieve the care committees of the work of assessment was withdrawn by the chairman of the subcommittee.

Open-air Schools and Playground Classes.

The committee decided, subject to the approval of the Board of Education, to continue the open-air schools held in London for the last three years and also the playground classes begun last year. The Day Schools Subcommittee stated that the reports on the playground classes were extremely favourable. The medical officer (education), Dr. Kerr, dealing with a class at Bethnal Green said the children selected were representative of the lowest stratum in that part of London. Without necessarily presenting signs of organic disease they were ill-nourished, ill-clad, pallid, and inert. The very first medical examination three weeks after the inception of the class left no doubt as to the highly beneficial effect of the régime out of doors upon the children. The school doctor, said Dr. Kerr, stated that in many cases he felt doubtful for a moment whether the children were the ones he originally selected, the difference was so great. Instead of a habitual condition of apathy and dulness the children displayed an interest in their work and a readiness to respond. Their demeanour was unmistakably more alert and spirited. The health of the children in no case suffered, while colds were almost entirely absent. The subcommittee mentioned, in regard to open-air schools, that the report upon last year's working was not yet ready, but there was no doubt it would be similar to those presented in 1909 and 1908. There were two hindrances to their extension—it had been found impossible to secure suitable sites in those parts of London where they were most needed, and the administration was costly, the average per head being about £20 per annum.

ANNUAL REPORT FOR 1909 OF THE MEDICAL OFFICER OF HEALTH OF THE ADMINISTRATIVE COUNTY OF LONDON.

III.[1]

Diphtheria.—Enteric Fever.

AMONG the diseases the spread of which is believed to have relation to the aggregation of children in schools, a prominent place in these reports is always accorded to diphtheria. In the year under notice the proportion of reported cases of this disease (including membranous croup) was the same as it had been in 1905—namely, 1·4 per 1000 of the population at all ages, which is the lowest rate hitherto recorded in London. The disease, however, appears to have assumed a somewhat more fatal type, for the case-mortality among the reported cases was above the average in the four years immediately preceding More than four-fifths of the cases known to the sanitary authorities are now treated in the hospitals of the Metropolitan Asylums Board; and we are concerned to note that among the cases medically certified to be diphtheritic, and admitted as such to the wards, the proportion of instances of mistaken diagnosis in the year under notice was as high as 16·8 per cent. In three of the metropolitan boroughs—viz., Lambeth, Greenwich, and Stoke Newington—the medical officers of health are supplied with antitoxic serum for use by medical practitioners. The experience of the Metropolitan Asylums Board, gained in the Board's hospitals, is emphatic as to the importance of making antitoxic serum available for use without delay. Among hospital cases treated with this serum in 1908 the mortality is reported to have been as follows: In cases where the treatment was begun on the first day of illness, 3·0 per cent.; on the second day of illness, 6·5 per cent.; on the third day, 10·6 per cent.; on the fourth day, 12·9 per cent.; and on the fifth day and later, 14·8 per cent. The metropolitan boroughs showing the lowest proportions of attack by diphtheria were Hampstead, where the rate was equal to 0·50 per 1000 living, and Stoke Newington, where it was 0·52 per 1000. The boroughs with the highest rates were Woolwich, 2·01 per 1000, and Lewisham, 2·42 per 1000.

Enteric fever was less prevalent than usual in 1909. The distribution of the disease in London was exceptional, the usual autumnal rise being absent. The rate of attack by enteric fever was the lowest on record, and so likewise was the rate of mortality. In many who were medically certified to be suffering from enteric fever the diagnosis was not subsequently confirmed. Among the several sanitary areas the attack rate of enteric fever was highest (0·45 per 1000) in Shoreditch; it was lowest (0·09 per 1000) in Woolwich, and 0·11 per 1000 in Lewisham. In proportion to the living the attacks were most numerous in both sexes at ages from 10 to 15, whilst the death-rate was highest at ages 25 to 35 among males, and at ages 15 to 20 and 25 to 35 among females.

Pulmonary Tuberculosis.

To the behaviour of pulmonary tuberculosis in London considerable prominence is given in the present report. A new as well as an instructive diagram is presented showing the corrected rate of mortality from tuberculous phthisis in relation to the mean rate of the period 1851–1909. The diagram shows a marked decline of phthisis mortality in both sexes, and a greater incidence of that mortality in the male sex. It further indicates that until the last seven years the decline has been more manifest in females than in males. Sir Shirley Murphy is, however, careful to point out that this alteration in the relative decline in the death-rate of the sexes in recent years may be apparent only, inasmuch as it would be explicable in the event of the relative proportion of the sexes having changed since the last Census. The tendency to decrease in the mortality from phthisis has been general; among the metropolitan boroughs there are only three in which that mortality has not fallen since the five-year period 1904–08.

In an interesting table the mortality from phthisis in groups of districts is shown in relation to overcrowding as a measure of social condition. From this table it appears that if the phthisis mortality of the whole of London be represented by 1000, the mortality of the districts where overcrowding does not exceed 7·5 per cent. is represented by 709, whilst that of the districts where the overcrowding amounts to 27·5 per cent. the comparative mortality figure is 1394. Equally conspicuous is the close relationship between social condition and phthisis mortality, as indicated by similar tables in the reports of recent previous years. In the group of most overcrowded districts the phthisis mortality is, usually and approximately, twice that in the least overcrowded districts.

With the object of more fully illustrating the effect on phthisis mortality of social condition, as measured by the proportion of children scheduled for education purposes, a second diagram has been constructed in which the death-rates of both sexes at several age-groups are compared, after exclusion of the deaths in public institutions of persons whose last known residence was a common lodging-house. For the use of those who prefer the ordinary form of statistics a table has been prepared, from which it appears that the male phthisis death-rate is greatest at the age of 45, but that the female rate, whilst greatest at that age in the three most favoured district groups, is greatest at the age of 35 in the two least favoured groups; and this fact holds good whether the deaths among inmates of lodging-houses are, or are not, excluded. From this we see that, as between age 35 and age 45, the female rates of phthisis mortality show a tendency to greater incidence at the earlier ages as social conditions become less favourable. This tendency is not shown by the male rates. And here it deserves notice that the more general employment of servants in the better-class districts is a factor probably contributing to this result. In so far as young women suffering from phthisis would die, not at the houses in which they were employed, but in their own homes, this circumstance would tend to diminish the incidence of phthisis mortality in the more favoured, and to increase it in the less favoured districts.

Phthisis Deaths in Workhouses and in Other Institutions.

From figures quoted on the Registrar-General's authority we learn that almost half the deaths of males, and

[1] Previous notices of this report have appeared in THE LANCET of Jan. 14th (p. 110) and Feb. 4th (p. 322) and 11th (p. 393).

nearly one-third of the deaths of females, occurred in workhouses. The intimate association of phthisis with poverty is strikingly shown by these figures; and from the same source it may be gathered that many more men than women die in workhouses, probably because destitution especially supervenes when the husband fails in health. If the districts are grouped on the basis of social condition of the inhabitants, practically identical proportions will be observed. Thus it appears, from a further table, that whilst in the most favoured districts 39·8 per cent. of the males die from phthisis in workhouses, in the least favoured districts the percentage is 52·5. On the other hand, the female deaths in workhouses in the best and the worst districts differ by less than 3 per cent.

Administrative Control of Pulmonary Tuberculosis.

As regards the administrative action taken in London for the suppression of pulmonary tuberculosis, very full particulars are given in this report. The county medical officer of health, with the help of his staff, has made careful inquiry concerning the preventive measures taken in each metropolitan sanitary area respecting cases of this disease coming to the knowledge of the sanitary authorities. At the present time voluntary notification of pulmonary tuberculosis obtains in most of the sanitary districts, and this system has been recently supplemented by an Order of the Local Government Board requiring the notification to the medical officer of health of all cases of this disease occurring in Poor-law practice, and empowering local authorities to adopt measures for the prevention thereof. This Order provides for pulmonary tuberculosis to be dealt with as an infectious disease, and this view, together with the steps necessary for the suppression of the disease, is set forth in a Memorandum by the Board's medical officer. The Order in question enables a sanitary authority to exercise wide powers in aid of the most necessitous class of the community. It would appear to authorise the provision of hospital and sanatorium accommodation for cases of phthisis, and in suitable cases to ensure that a separate sleeping room should be provided for the patient. The result of the Tuberculosis Order has already been that the number of cases notified has been more than doubled, but even this number must, of course, fall short of the total actually occurring. "It may therefore be considered," says Sir Shirley Murphy, in a weighty sentence, "whether obligatory notification of patients in all classes of the population would produce very different results." In a few provincial towns voluntary notification has been followed by compulsory notification, and the local medical officers of health have communicated to Sir Shirley Murphy the results of their work. As a result of comparing the experiences of the officers referred to, it appears (*a*) that voluntary notification may fail to bring to the knowledge of the medical officer of health as many cases of pulmonary tuberculosis as there are deaths from this disease; (*b*) that when voluntary notification is supplemented by obligatory notification of cases occurring in Poor-law practice, the number of notifications is materially increased, but that it does not bring to knowledge more than a proportion of the clinically recognisable cases; and (*c*) that compulsory notification of phthisis, whether in Poor-law or other practice, brings to the knowledge of the medical officer of health a number of cases in excess of the number of deaths, but this number is still obviously less than the number of clinically recognisable cases. Appended to this report is a statement relating to each sanitary district, showing the steps that are taken locally, in the interest of the patient and of those with whom he is associated, on the medical officer receiving notice of the occurrence of a case of phthisis. In some few cases the house is visited by the medical officer of health personally, but usually by a sanitary inspector or health visitor, and advice is given on important points. In some districts, moreover, the services of a local health society are available. Adequate provision is apparently made in some cases for the supervision of the patient at home. In others the steps taken can hardly be described as satisfactory. Especially it should be noted that the steps taken do not include the medical examination of other members of the family. This is an important omission, for we know that the early detection of incipient cases and the provision of appropriate treatment for the patient are the most promising of the prophylactic measures that can be adopted.

In reviewing the facts at his disposal the county medical officer deliberately states the conviction that "at present it cannot be said that in London, as a whole, any material effort has been made to deal with this disease. Especially is effort wanting to detect early cases of phthisis, and to provide for their subsequent treatment. It needs to be noted that in Paddington, as the result of philanthropic effort, a dispensary has been instituted which is rendering useful service in these directions, and that in one or two other districts the provision of such an institution is being undertaken; but in the districts generally, little has been done to exercise the powers conferred by the Order of the Local Government Board."

Milk-supply and Tuberculosis.

In addition to the Dairies and Milkshops Order of 1899, which provides that the milk of cows certified by a veterinary surgeon to be suffering from tuberculosis of the udder shall not be sold or used for human food, the London County Council obtained powers in 1904 to remove from a dairy any cow suspected to be suffering from tuberculosis of the udder. Since that date the cows in the London cowsheds have been periodically examined by the Council's veterinary inspectors, and in this way 28 cows suffering from tuberculous diseases of the udder have been removed and slaughtered.

Under the General Powers Act of 1907 the Council officers are empowered to take for analysis samples of milk at the London railway termini consigned to dealers in London. In the year under notice 2325 samples of milk were taken by the Council's inspectors and conveyed to the Lister Institute for bacteriological examination. The result is that out of 1966 completed examinations of samples taken from churns consigned to London dealers 205, or 10·4 per cent., proved to be tuberculous. In the previous annual report it was stated that out of 528 examples examined in 1908, 11·6 per cent. were found to be tuberculous.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE HUNTERIAN FESTIVAL.

THE delivery of the biennial Hunterian Oration at the Royal College of Surgeons of England on Tuesday last, Feb. 14th, was followed in the evening by a banquet given by the President and Council of the College to a distinguished group of visitors, the principal guest being the Lord Mayor of London, Sir Thomas Vesey Strong, while among others present may be mentioned the Bishop of Bristol, Sir Herbert Maxwell, Mr. Walter Long, M.P., Lord Ilkeston, Lord Sandhurst, Lord Goschen, Sir Ernest Waterlow, Sir James Linton, Sir James Porter (Medical Director-General of the Navy), Surgeon-General Gubbins (Director-General of the Army Medical Service), Mr. Rider Haggard, Sir. E. Ray Lankester, Sir Alfred Cripps, and Sir Squire Bancroft.

After dinner and the Royal toasts, "The Memory of John Hunter" was drunk in silence, and immediately thereon the President, Mr. H. T. BUTLIN, proposed the health of the visitors, coupling the toast with the name of the Lord Mayor of London, and taking the opportunity to point out publicly that the Hunterian Museum in the custody of the College was in reality a State Museum. After alluding to the many distinguished guests who were present, the President said that it was some years since the College had entertained the Lord Mayor and Sheriffs, but they liked to do so from time to time in recognition of the hospitalities which were accorded by the City of London to the representative of the College, and also to remind the College of its origin in a City Corporation. When the surgeons separated from the barbers it was to form the Corporation of Surgeons, with its Master and Court of Assistants, and their dwelling-place was in the Old Bailey. He thought their City guests, particularly the masters of the City corporations who honoured the College with their presence, would like to know whether the College maintained the traditions of the corporations: in fact, how the College disposed of its revenues. The College rarely appeared in lists of donations or subscriptions. It had been suggested to him that the Council of the College spent money on themselves, and that he, the President, received an income of £5000

a year! He only wished it was so. But he was sorry to say that no salary was attached to the offices of President, Vice-President, or member of the Council. There were no pensions or sinecure offices, no almshouses for decayed Members of the Council, no schools for the education of their children. Even the hospitalities of the College were very limited: a dinner once a year at the most, sometimes only one dinner in two years. But the Council were going to show their guests to-night the way in which they spent their income. The museum had been specially lighted for the purpose. It had been in their possession for about 110 years, and it had been computed by those who compiled the guide-book for the British Medical Association last summer that it had cost the College more than £500,000. He could not say certainly if this were so because, although the accounts of the museum were separately kept, no charge had been made on it towards the secretarial department and general upkeep of the College. But he knew that the College had spent out of its own money more than £100,000 for buildings alone, and he thought the estimate was probably not exaggerated. It might be said that, after all, the museum was the property of the College, and it was not a matter of interest to the outside world whether it cost much or little. That was not the case. The museum did not belong to the College. It was a national museum, and he doubted whether there was any similar instance of a national museum being kept and paid for by a private body like the College of Surgeons. The history of the museum was that it had been collected in the course of 30 or more years by Mr. Hunter, who declared that he had spent £70,000 upon the 13,000 specimens of which it consisted. At his death, in 1793, it was the only property he left to his widow and her two children. It was offered to the nation, but Mr. Pitt was advised not to purchase it, as it was not of national interest. Six years later, just as it was on the point of being dispersed and sold bit by bit, Lord Auckland and some other distinguished persons persuaded the Government to buy it for £16,000. When they had done so Mr. Pitt did not know what to do with it, and offered it on trust to the Corporation of Surgeons. On their acceptance of the trust a sum of £15,000 was provided by the Government to house it. In the last 110 years the Government has furnished altogether just over £57,000 for assistance in building fresh accommodation. But the College has provided nearly twice as much for that object and has maintained and enlarged the museum entirely at its own expense. Yet it still remains a national museum, guarded by 31 Hunterian trustees, many of whom are trustees by virtue of their office, as the Lord Chancellor, the Prime Minister, the Speaker of the House of Commons, the Ministers of the Navy and the Army, and others. The trustees meet regularly every three months and visit the Museum when they will. The Council of the College is only represented among the trustees by the President. So strict are the regulations that we are not permitted to destroy or remove a single Hunterian specimen without the approval of the trustees. In spite of this, there is nothing connected with the College in which the Council takes greater pride, or on which it more willingly spends time and money than the Museum. It now consists of a vast number of specimens, and is undoubtedly by far the most splendid museum of its kind in the world. Only last year one collection of more than 5000 specimens was added to it by the Royal Society of Medicine (the Odontological Section). The President hoped their guests would be pleased to enjoy their cigars in the Museum, as His Majesty the late King had done on more than one occasion, adding that the Museum is largely used, for there are over 1000 attendances every month.

The LORD MAYOR, in his reply, confessed his pride, as the representative of the City of London, in the development of the old City Guild into a powerful and scientific corporation.

Lord ILKESTON proposed the health of the Hunterian orator, and Mr. EDMUND OWEN replied in a happy manner.

The company then finished a thoroughly interesting and entertaining evening in the Hunterian Museum, which was brilliantly lighted up for the occasion.

MEETING OF COUNCIL.

AN ordinary meeting of the Council was held on Feb. 9th, Mr. BUTLIN, the President, being in the chair.

The PRESIDENT reported the death on Jan. 18th last at the age of 80 of Mr. Henry Power, past Vice-President and past member of the Council. It was resolved that—

The Council do hereby record their deep regret at the death of Mr. Henry Power, who for 11 years was a member of the Council and devoted to the service of the College. He was highly esteemed, not only for his professional attainments, but for his personal qualities, which won for him the respect and affection of all who knew him.

The Council also desires to express their very sincere sympathy with Mrs. Power and the members of his family in the loss which they have sustained.

It was resolved to issue Diplomas of Membership to 74 candidates found qualified.

It was resolved, on the recommendation of the Court of Examiners, that Clause 2, Subsection 2, and Clause 5, Subsection 3 of Section 3 of the regulations for the Diploma of Fellow should be altered so as to read—

Dissections during the regular vacations will be accepted provided the certificate shows that they have been performed under the superintendence of an authorised teacher in a medical school.

It was resolved that jointly with the Royal College of Physicians Diplomas in Public Health should be granted to 21 successful candidates.

On the recommendation of the Committee of Management it was resolved:—

That a Diploma in Diseases and Hygiene of the Tropics be granted by the Royal Colleges after an examination conducted under the superintendence of the Conjoint Board, and that one Examiner in Bacteriology and one Examiner in the Diseases and Hygiene of the Tropics including Surgery be appointed by each of the Royal Colleges.

A syllabus of the subjects of the examination has been drawn up and was approved.

Mr. C. H. Golding-Bird was reappointed as the Representative of the College on the Central Midwives Board.

The PRESIDENT reported the delivery of Hunterian Lectures by Dr. F. W. Edridge-Green on Colour Vision and Colour Blindness, and by Dr. W. d'Este Emery on the Immunity Reaction in Diagnosis, especially in Tuberculosis and Syphilis.

The PRESIDENT reported that in pursuance of the provisions of the Bradshaw Bequest he had chosen Mr. R. Clement Lucas as Bradshaw Lecturer for the ensuing collegiate year.

A letter was read from the Secretary of the Royal Society of Medicine stating that at the last meeting of the Council of this society it was unanimously resolved to present to the Royal College of Surgeons the Osteological Collection formerly belonging to the Obstetrical Society and at present stored in the basement of the College.—The best thanks of the Council were given to the Royal Society of Medicine.

THE HEALTH OF THE NAVY IN 1909.

THE Statistical Report on the Health of the Royal Navy for 1909, issued late last year, and noticed briefly in THE LANCET on Feb. 4th, merits detailed notice. The report continues to show a general improvement in the health of the premier service. It deals with a total force of 112,700, a large majority of whom—viz., 76,330—were serving at home. In March, 1909, the command previously known as the Channel Fleet was absorbed into the Home Fleet. This amalgamation brings back the number of separate commands to ten, as was the case previous to 1908, when the Home Station was split up into Home Station and Home Fleet.

Statistics.

In all statistical respects the health returns are satisfactory, the ratios of cases of sickness and injury admitted, for invaliding, for mortality, and for average loss of service, being all lower than the average of the previous five years. The total number of cases of disease and injury that occurred was 72,540; this gives a ratio of 643·65 per 1000, showing a decrease of 75·34 on the quinquennial average. The average sick-rate was 26·75 per 1000, being 2·84 per 1000 less than during the preceding quinquennium. The average loss of service was 9·76 days for each person, or 1·04 less than the five-year average. The highest ratio of men sick daily occurred, as usual, in the Irregular List, among the crews of vessels on passage to or from foreign stations, or employed on the west coast of North America, amounting to 45·76 per 1000; next to this comes the Home Station, with 35·42 per 1000; China and the East Indies were also slightly above the mean, but all the other commands were below the mean, the healthiest being Cape of

Good Hope, with 20·14. It is to be noted that the men of the Home Fleet had only 23·19 per 1000 sick every day on an average, being much healthier than those of the Home Station, which consists of depôt and training ships, the home hospitals, and the Royal Naval College at Greenwich. The deaths in the whole navy numbered 362, or 3·21 per 1000, and the invalidings 1764, or 15·65 per 1000; the ratios for the preceding quinquennium were 3·75 and 16·51 respectively.

Taking the statistics of the navy as a whole, and examining into the relative importance of the different causes of inefficiency through sickness we may compare the admissions and the number daily sick under each heading, as stated in ratios per 1000 of strength. For all causes the admission ratio was 643·65 and the number sick every day 26·75; of these, venereal affections accounted for 119 admissions and 7·9 constantly sick; the group of digestive diseases caused 103 admissions per 1000 and 2·9 constantly sick; diseases of the skin and connective tissue come next with 73 and 2 per 1000; and then respiratory diseases with 69 and 1·6 per 1000 ratios. Influenza is always prevalent in the navy and, though less so this year than has been the case recently, accounted for 20 per 1000 admissions to hospital. Local injuries are also an important cause of admission, amounting to 131 per 1000, the average number constantly sick being 4·36 per 1000, a higher ratio than for any other single disability. But in all these instances (except the first named) the number of individual cases and the total amount of sickness, as shown by the average ratio per 1000 daily sick, were less than in the preceding quinquennium. With regard to venereal diseases taken as a whole, there was no improvement; the admissions per 1000 were 119·5, compared with 120 in the five years preceding, and the average sick-rate was 7·9, compared with 8·2; there does not seem to have been any diminution in the severity of the affections, nor acceleration of recovery by the improved methods of treatment adopted. The total disability from this cause amounted to an average of 892 men in hospital every day throughout the year. The most fatal of the causes of disease was, as in the previous year, pneumonia (37 deaths, 0·32 per 1000); enteric fever caused 28 deaths (0·24 per 1000), and tuberculosis 22 deaths (0·19 per 1000). The chief causes of invaliding were tuberculosis (209 cases, 1·85 per 1000), nervous diseases (also 209 cases, 1·85 per 1000), heart disease (149 cases, 1·32 per 1000), and diseases of the digestive system (274 cases, 2·43 per 1000), defective teeth and hernia (operation refused) being the principal items in this last category; only 23 cases of hernia, however, were invalided, while 519 were operated on for radical cure with excellent results in all but three or four instances.

A comparison of the statistics of the different commands shows that the East Indies Station suffered most, having a case-rate of 959, a death-rate of 9·04, and 25·53 per 1000 invalided; 5 out of the total of 17 deaths were due to beriberi. Malaria admissions were at the rate of 145 per 1000, while pyrexia caused 97 per 1000; the other chief causes of sickness were affections of the digestive system and of the connective tissue and skin. The healthiest commands were the Home Fleet (560 per 1000 admissions and 2·73 deaths), and that of the Cape with 570 admissions per 1000 and no death.

Prevalence of Chief Diseases.

The most important diseases may now be shortly considered in regard to their prevalence and distribution. The admissions for *influenza* numbered 2280, of which 4 were fatal; cases occurred in all the commands; as it led to no necessity for invaliding men out of the service it was nowhere of a severe type; three of the deaths were due to pneumonia, and one to heart failure, all occurring at home. 35 cases of *diphtheria* occurred, 22 being on the Home Station, and 10 of these on the *Impregnable* training-ship for boys. In the Home Fleet cases of acute infectious disease, such as measles, scarlet fever, mumps, &c., were frequently introduced into crowded ships; but there was rarely any spread of the disease, which speaks well for the promptitude of recognition and adequacy of preventive measures.

Enteric fever caused 150 admissions and 28 deaths; 31 of the cases were admitted on the Home Station, most being thought to have contracted infection while on leave, or staying at their homes. In only one case is a cause suggested, the eating of cockles. 46 cases occurred in the Home Fleet, in regard to 3 of which it was "almost conclusively proved that shellfish were the cause"; and 4 cases in other ships were ascribed to the same source of infection; at Queenstown two officers partook of oysters and developed enteric, one case being fatal. One case on the *Prince of Wales* in the Atlantic Fleet is said to have been due to eating cockles at Portsmouth. On the Mediterranean station 30 cases occurred; in the outbreak on the *Swiftsure* there were 12 cases, to which number should be added 9 further cases occurring in 1910; the movements of the men are carefully detailed in the report, and the conclusion is reached that probably infection was due to contaminated food at Suda Bay and Phalerum or the Piræus, though contact infection could hardly be excluded. Shore infection at Bermuda is thought to have been the cause of 5 cases on the North American station; it is also suggested that the germs might have been carried by flies, which existed in swarms at the time. On the irregular list 7 cases are recorded, 2 of which appear to have been infected at Hong-Kong; 2 others occurred shortly after leaving England for Australia, one of whom had eaten oysters at Portsmouth a fortnight previously. *Pyrexia* of uncertain origin caused numerous admissions in the Mediterranean, most being trivial cases; a series of 12 on the *Bacchante*, with an average duration of 18 days, of slight severity and favourable termination, are attributed to infection at the Piræus, and were probably cases of phlebotomus fever due to sandfly infection. On the China station a few cases occurred of the so-called "Yangtse river fever," which are returned under this heading. In the appendix is given a clinical description of the cases. The pyrexia is of an intermittent type, reaching 102° to 103°, lasting some 10 to 14 days, and accompanied by an urticarial rash; sometimes also there may be dyspnœa, dysphagia, or diarrhœa. It is thought that the urticaria "may affect any part of the body inside or out." The disease seems to be infective and to be in some way connected with freshly turned soil.

Pneumonia was an important cause of sickness, accounting for 4·18 admissions per 1000 of strength. This shows a slight decrease on the average for the preceding five years, but on the home station there was an actual increase, the ratio being 8·31 per 1000, compared with the previous average of 6·23. The cases numbered 218 and there were 17 deaths; 48 cases were admitted on the *Vivid* (general depôt ship). It is stated that the disease "could not be traced to any insanitary condition, and was most prevalent in the early summer." Pneumonia was also the most fatal disease, 37 deaths being due to this cause, giving a ratio of 0·32 per 1000.

Malaria was somewhat more prevalent in 1909, the case-rate being 5·42 per 1000, compared with a ratio of 5·09 for the quinquennium. On the East Indies Station the case ratio was 145·21 per 1000, a considerable increase on the quinquennial average of 118·47, though much less than the admission rate in 1908, which was 252·9. The majority (135) of the cases this year, as last, were admitted on the *Perseus*, lying in the dockyard, Bombay; in 1908 the men lived at the Sailors' Home in Bombay; this year nearly all the seamen ratings and marines went up to Deolali; the engineer and stoker ratings and a few seamen, signalmen, and marines lived in the Sailors' Home, Bombay. At Deolali it was quite healthy—very few mosquitoes and very little fever. At Bombay the men worked on board in the dockyard from 8 till 2 all through the rainy season. Every man had a mosquito net and was made to use it, and 10 grains of quinine were given to each thrice weekly. The mosquitoes swarmed on board, and bit as much in the day as at night. Citronella oil, smeared on exposed parts, kept off their attacks to some extent. The type of fever was not so severe as in 1908.

Tuberculosis caused 320 admissions, and was the most important cause for invaliding, 209 men having to leave the service on this account; both case and invaliding ratios, however, are lower than the quinquennial average, and the death-rate (0·19 per 1000) is only half that of the preceding five-year period (0·38). The case ratio for the whole navy was 2·83 per 1000; for ships' stewards it was 12·9; for sick-berth staff, 8 84; and for cooks, 8 61; for seaman ratings it was 2 46.

The *venereal* statistics, as already mentioned, show little improvement, but it is to be noted that "the system which

now obtains of invaliding cooks and domestics and similar ratings who are rendered entirely unfit for the performance of their duties by the presence of venereal disease, if they are unlikely to recover completely within a reasonable period, tends to increase the number of cases invalided." The case and invaliding ratios were 119·53 and 1·35 per 1000 respectively.

Rheumatic fever shows a serious increase, there having been an admission ratio of 7·22 per 1000, more than double that of the preceding five-year period, which was 3·46; it is also an increase over the admissions in 1908, which were 6·51 per 1000, and a great advance on the average for the five years 1903–07, which was only 2·68 per 1000. The increase has been notable in all commands except the Australian, and in the Home Station and in the Home Fleet. The report states that "as in 1908, the case ratio shows a decided increase (3·76), which is possibly in part dependent on the concentration of the fleet in the cold and stormy home waters, but to some extent is perhaps due to more careful classification" (p. 7). The admission ratio has been more than doubled; the term "decided" is not adequate to express an increase of 108 per cent. (or if the five years, 1903–07 be compared, of 169 per cent.); it is conceivably partly to be explained by the concentration suggested; but *all* the stations except the Australian show a similar increased prevalence. (Later on we find a reduction under diseases of the organs of locomotion from a quinquennial average of 22·13 to 13·58 per 1000; "joint inflammation" is probably, therefore, now more correctly returned as rheumatic fever.) Whatever was comprehended under this heading, the mortality ratio was low, only 3 cases having been fatal out of 814.

Only 115 cases of *alcoholism* occurred in the whole force of 112,700 men; Dr. Tobias Smollett would have wondered. There were four deaths, one due to gastro-enteritis, "the patient being entirely unaccustomed to alcohol."

Of *poisoning* there were 111 cases, more than half being due to ptomaines (57); most of these came from eating tinned provisions, such as tinned fish. There were 22 cases of "beri-beri," all occurring amongst native ratings (lascars) in the Persian Gulf Division of the East Indies Station. Staff-Surgeon A. J. Laurie gives a careful account of the outbreak in a special paper in the appendix to this report. He states that the rice was undoubtedly good and well cured, but that the copper cooking vessels were not properly tinned; indeed, they were not tinned at all for eight or ten months; he considers, therefore, that the "beri-beri" was due to copper poisoning, not to any faulty condition of the rice. Purulent gingivitis was present in 8 out of 11 cases specially observed, and the pus in some instances gave the reaction of copper. There is, however, no detailed clinical description of the symptoms, and a doubt arises as to the real nature of the disease.

Of the *local diseases*, those of the nervous system show a reduction in point of number, the cases having been 6·92 per 1000, compared with the quinquennial average of 8·38.[1] Circulatory diseases caused a larger number of deaths than any other group, except pneumonia, but were not more severe or numerous than usual. Respiratory diseases were numerous, but not fatal; and diseases of the digestive system furnished far more admissions to hospital than any other group (except venereal), showing, however, some decrease on the quinquennial average. Sore-throat and tonsillitis are included under this heading, though often independent of any condition connected with digestion. No outbreaks, however, are recorded attributable to any insanitary conditions. We are not able to gather from the figures presented what are the present dental conditions in the Royal Navy, how they compare with those in young adults in civil life, or whether they are improving, or the reverse. With the increased care that is now being taken of the teeth in school children there should soon result an improvement in the dental conditions of young adults in the public services. There is a large reduction in the admissions for diseases of the connective tissue and skin, which now stand at 73·36 per 1000, compared with 101·36 for the five years 1904–08. It is considered that the withdrawal of so many men from tropical service during late years has largely accounted for this; in the East Indies Command the ratio is still 153 and in China 119·9; while both in the Home Station and in the Home Fleet it is only 60. General *injuries* are slightly below the average (2·52 as compared with 2·63 per 1000). There were actually 285 cases with 80 deaths. The unfortunate sinking of Submarine "C 11," with a loss of 13, and the running down of the pinnace of the *Encounter* in Sydney Harbour, with a loss of 15, were the most important accidents that occurred during the year.

[1] A misprint in the figure for invaliding ratio on p. 96 has unfortunately led to an error in the text of the report on p. 8, where 2·17 should be read instead of 3·17.

Appendix.

In the appendix notes are furnished of five cases of *caisson illness* during the year 1909, which are interesting and of practical value to naval officers. A little more care might have been given by the editor. In the account of Case 2 it is said that the patient had a sub-normal temperature "until July 25th"; but as the date of the occurrence is not mentioned this gives no real information. Fleet-Surgeon W. W. Pryn contributes an admirably clear and interesting exposition of the various methods of *colour vision testing*, with especial reference to that employed at the Admiralty; he sums up that (1) an examiner should himself have normal colour vision; (2) as required for sea service it is best tested by means of a lamp; (3) of these the Edridge-Green is the best form; (4) the practice of requiring the coloured lights to be matched with wools is to be recommended; (5) the Holmgren test is useful as an auxiliary. Another useful paper is that of Fleet-Surgeon A. G. Wildey on the Vision of Men under Training at the Gunnery School. Of 676 examined, 15·82 per cent. were found to be defective, chiefly owing to astigmatism; but the ametropic errors were small. He believes, however, that inability to read Snellen's types at normal distances, unless it be due to organic disease, does not materially affect the accuracy of shooting in the gunlayers. He very reasonably points out that it is no detriment to men of the stoker class, who have to read gauge-glasses, engine-room thermometers, &c., to be unable to read the types at six metres; among the older men of these ratings the slightly myopic have indeed the advantage. In a report on the eyesight-testing of gunlayers and others at Whale Island, Fleet-Surgeon W. A. Whitelegge notes that astigmatism is relatively common. Out of 83 cases of visual defect 32 were due to this cause; the men, however, were able to correct the errors by very slight adjustment of the telescope, and made excellent shooting at the battery. He has no doubt that eye-strain in the service is increasing, owing to the powerful telescopes now in use, and the glare of the sea. Staff-Surgeon Oswald Rees, whose very interesting observations on body temperature and the cause of heat-stroke appeared in last year's report, returns to the subject in the present issue. Fleet-Surgeon F. H. A. Clayton and Staff-Surgeon C. H. J. Robinson also contribute notes of the cases of cramp due to high temperature in the China Seas. We heartily welcome these contributions to professional literature in the Naval Medical Report, which we are glad to see is much fuller (nearly 90 more pages) than last year. The fuller notes this year on the causation of disease in the various commands are also very welcome; but, like Oliver, we ask for more: more extended accounts of professional work, preventive and curative, under the great variety of conditions in which the Royal Navy serves in all parts of the world.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 77 of the largest English towns 7890 births and 5255 deaths were registered during the week ending Feb. 4th. The annual rate of mortality in these towns, which had been equal to 15·5, 16·4, and 16·1 per 1000 in the three preceding weeks, declined to 16·0 in the week under notice. During the first five weeks of the current quarter the recorded death-rate in these towns averaged 15·7 per 1000. In London the mean death-rate during the same period was equal to 15·8 per 1000. The annual death-rates in the 77 towns during the week ranged from 5·1 in Hornsey, 8·7 in Wolverhampton, 9·0 in Aston Manor, and 9·1 in Handsworth (Staffs), to 21·6 in Oldham, 23·5 in Middlesbrough, 24·1 in Swansea, and 24·5 in Bury. The 5255 deaths from all causes in the 77 towns in the week under notice showed a decline of 56 from the number returned in the previous week, and included 477 which were referred to the principal epidemic diseases, against 448, 455, and 461 in the three preceding weeks; of these 477 deaths from epidemic

diseases, 230 resulted from measles, 116 from whooping-cough, 52 from diphtheria, 47 (of infants under two years of age) from diarrhœa, 21 from scarlet fever, and 11 from enteric fever, but not one from small-pox. The fatal cases of measles, which had increased in the four preceding weeks from 160 to 208, further rose to 230, and caused the highest annual rates of 1·9 in Tottenham, in West Ham, in Coventry, and in Stockton-on-Tees, 3·5 in Grimsby and in Sheffield, and 5·4 in Rotherham. The deaths attributed to whooping-cough, which had been 87, 85, and 113 in the three preceding weeks, rose again to 116; the highest rates from this disease were 2·3 in Rotherham, 3·3 in Norwich, and 3·6 in Willesden. The 52 deaths from diphtheria showed an increase of 4 upon the number in the previous week, and included 12 in London, 7 in Leeds, 4 in Birmingham, 4 in Liverpool, and 3 in Salford. The deaths of infants under two years of age attributed to diarrhœa and enteritis, which had been 68 and 58 in the two preceding weeks, further declined to 47. The fatal cases of scarlet fever, which had declined from 31 to 17 in the three previous weeks, rose to 21; 6 deaths occurred in London, 3 in Birmingham, and 2 each in Leyton and in Liverpool. The 11 deaths referred to enteric fever showed a decline of 6 from the number in the previous week; 2 were recorded in West Ham and 2 in Wigan. The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospital, which had steadily declined in the 12 preceding weeks from 1882 to 1311, had further fallen to 1264 on Feb. 4th last; 130 new cases of this disease were admitted to these hospitals during the week under notice, against 135, 126, and 129 in the three preceding weeks. These hospitals also contained on Feb. 4th 861 cases of diphtheria, 328 of measles, 145 of whooping-cough, and 63 of enteric fever. The 1518 deaths from all causes in London in the week ending Feb. 4th (showing a decline of 20 from the number in the previous week) included 366 which were referred to diseases of the respiratory system, against numbers increasing in the five preceding weeks from 263 to 374. In the 77 towns 178 deaths resulted from different forms of violence, against 169 and 159 in the two previous weeks; and 412 inquest cases were registered. The causes of 34, or 0·6 per cent., of the deaths registered during the week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in London and in each of its eight suburban districts, in Leeds, Bristol, Bradford, Newcastle-on-Tyne, Hull, Nottingham, and in 44 smaller towns; the 41 uncertified causes of death in the 77 towns in the week under notice included 7 in Birmingham, 4 in Sheffield, and 3 each in Liverpool and in Warrington.

In 77 of the largest English towns 8394 births and 5783 deaths were registered during the week ending Feb. 11th. The annual rate of mortality in these towns, which had been equal to 16·4, 16·1, and 16·0 per 1000 in the three preceding weeks, rose to 17·6 in the week under notice. During the first six weeks of the current quarter the recorded death-rate in these towns averaged 16·0 per 1000, and corresponded to the recorded rate during the same period in London. The annual death-rates in the 77 towns during last week ranged from 7·7 in Hornsey, 8·9 in Kings Norton, 9·9 in Walthamstow, and 10·5 in Handsworth (Staffs.), to 24·3 in Stoke-on-Trent, 25·2 in Coventry, 25·4 in Dewsbury, and 29·0 in Stockton-on-Tees. The 5783 deaths from all causes in the 77 towns showed an increase of 528 upon the number returned in the previous week, and included 525 which were referred to the principal epidemic diseases, against 455, 461, and 477 in the three preceding weeks; of these 525 deaths, 249 resulted from measles, 123 from whooping-cough, 58 from diphtheria, 55 (of infants under two years of age) from diarrhœa, 21 from scarlet fever, and 19 from enteric fever, but not one from small-pox. The fatal cases of measles, which had steadily increased during the first five weeks of the current year from 160 to 230, further rose last week to 249, and caused the highest annual rates of 2·2 in Newcastle-on-Tyne, 2·3 in Gateshead, 2·5 in Coventry, 2·9 in Rhondda, 4·8 in St. Helens, and 5·7 in Sheffield. The deaths from whooping-cough, which had been 85, 113, and 116 in the three previous weeks, further rose to 123 in the week under notice; the highest rates from this disease were 1·6 in Bradford, 2·4 in Middlesbrough, 2·9 in Stockton-on-Tees, 3·3 in Norwich, and 3·5 in Warrington. The 58 fatal cases of diphtheria showed an increase of 6 upon the number returned in the previous week and included 23 in London and its suburban dirtricts, 5 in Leeds, 4 in Stoke-on-Trent, and 3 in Liverpool. The deaths of infants under two years of age attributed to diarrhœa, which had been 68, 58, and 47 in the three previous weeks, rose again last week to 55. The 21 fatal cases of scarlet fever were equal to the number returned in the previous week; 3 deaths occurred in Portsmouth, 3 in Huddersfield, and 3 in Leeds. The 19 deaths from enteric fever showed a slight increase upon the recent weekly numbers, and included 2 each in London, Croydon, Wigan, Manchester, and Sheffield. The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospital, which had steadily declined in the 13 preceding weeks from 1882 to 1264, had further fallen to 1257 on Saturday last; 147 new cases of this disease were admitted to these hospitals during last week, against 126, 129, and 130 in the three preceding weeks. These hospitals also contained on Saturday last 847 cases of diptheria, 371 of measles, 171 of whooping-cough, and 54 of enteric fever. The 1630 deaths from all causes in London last week (showing an increase of 113 upon the number in the previous week) included 404 which were referred to diseases of the respiratory system, against 366, 374, and 365 in the three preceding weeks. In the 77 towns 187 deaths resulted from different forms of violence, against 159 and 178 in the two preceding weeks, and 407 inquest cases were registered. The causes of 50, or 0·9 per cent., of the deaths registered during the week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, Leicester, and in 48 smaller towns; the 50 uncertified causes of death in the 77 towns last week included 9 in Birmingham, 8 in Liverpool, 4 in Sheffield, and 3 each in St. Helens and in Hull.

HEALTH OF SCOTCH TOWNS.

In eight of the principal Scotch towns 768 births and 670 deaths were registered during the week ending Feb. 4th. The annual rate of mortality in these towns, which had been equal to 14·8 and 15·7 per 1000 in the two preceding weeks, rose to 18·2 in the week under notice. During the first five weeks of the current quarter the death-rate in these towns averaged 15·9 per 1000, and was 0·2 above the mean rate during the same period in the 77 English towns. The annual death-rates during the week in the eight Scotch towns ranged from 12·1 and 12·7 in Aberdeen and Greenock to 19·8 in Glasgow and 24·4 in Dundee. The 670 deaths from all causes in the eight towns in the week under notice showed an increase of 94 on the number returned in the previous week, and included 63 which were referred to the principal epidemic diseases, against 51, 43, and 46 in the three preceding weeks; these 63 deaths were equal to an annual rate of 1·7 per 1000, the highest epidemic rates being 2·1 in Greenock and 2·4 in Dundee. Of these 63 deaths from the principal epidemic diseases, 22 resulted from whooping-cough, 18 from diarrhœa, 9 from diphtheria, 8 from scarlet fever, 4 from measles, and 2 from enteric fever, but not one from small-pox. The fatal cases of whooping-cough, which had been 20 and 14 in the two previous weeks, rose to 22, of which 16 occurred in Glasgow, and 2 in Edinburgh. The 18 deaths attributed to diarrhœa (of which 14 were of infants under two years of age) exceeded by 4 the number in the previous week; 8 deaths were registered in Glasgow, 3 each in Dundee and in Aberdeen, and 2 each in Edinburgh and in Greenock. The 9 deaths from diphtheria showed but slight variation from the recent weekly numbers, and included 4 in Glasgow and 2 in Edinburgh. The 8 fatal cases of scarlet fever exceeded the number in the previous week by 2; 5 deaths were recorded in Glasgow, 2 in Dundee, and 1 in Edinburgh. The 4 deaths from measles occurred in Edinburgh. Of the 2 deaths from enteric fever, 1 was registered in Glasgow and 1 in Dundee. The deaths in the eight towns referred to diseases of the respiratory system, which had been 130, 121, and 117 in the three preceding weeks, rose to 138 in the week under notice, but were 12 below the number returned in the corresponding week of last year. The deaths resulting from different forms of violence in the eight towns, which had been 15 and 20 in the two previous weeks, increased again to 27; and 197,

or 29 per cent., of the deaths occurred in public institutions. The causes of 22, or 3·3 per cent., of the deaths in the eight towns were not certified or not stated; in the 77 largest English towns the proportion of uncertified causes of death did not exceed 0·6 per cent.

In eight of the principal Scotch towns 866 births and 728 deaths were registered during the week ending Feb. 11th. The annual rate of mortality in these towns, which had been 15·7 and 18 2 per 1000 in the two preceding weeks, further rose to 19·8 in the week under notice. During the first six weeks of the current quarter the death-rate in these towns averaged 16·6 per 1000, and was 0·6 above the mean rate during the same period in the 77 English towns. The annual death-rates during last week in the eight Scotch towns ranged from 15·3 and 16·8 in Paisley and Aberdeen to 22·3 in Dundee and 23·9 in Greenock. The 728 deaths from all causes in the eight towns last week showed an increase of 58 upon the number returned in the previous week, and included 69 which were referred to the principal epidemic diseases, against 43, 46, and 63 in the preceding three weeks; these 69 deaths were equal to an annual rate of 1·9 per 1000, the highest epidemic rates being 2·8 in Perth and 4·2 in Leith. Of these 69 deaths from the principal epidemic diseases, 33 resulted from whooping-cough, 13 from diarrhœa, 11 from diphtheria, 6 from scarlet fever, 5 from measles, and 1 from enteric fever, but not one from small-pox. The fatal cases of whooping-cough, which had been 14 and 22 in the two previous weeks, further rose to 33 last week, of which 24 occurred in Glasgow, 5 in Leith, and 3 in Edinburgh. The 11 deaths attributed to diphtheria showed a slight increase upon recent weekly numbers, and included 4 in Glasgow, 3 in Edinburgh, and 2 in Leith. The deaths from diarrhœa, which had been 14 and 18 in the two preceding weeks, declined to 13 last week, of which 9 were of children under two years of age. The 6 fatal cases of scarlet fever showed a decrease of 2 from the number in the previous week; 3 deaths were registered in Glasgow, 2 in Greenock, and 1 in Paisley. Of the 5 deaths from measles, 4 occurred in Edinburgh and 1 in Glasgow; the fatal case of enteric fever was recorded in Glasgow. The deaths in the eight towns referred to diseases of the respiratory system, which had been 121, 117, and 138 in the three previous weeks, rose to 161 last week, and were 51 above the number returned in the corresponding week of last year. The deaths resulting from different forms of violence, which had been 20 and 27 in the two preceding weeks, rose again to 28 last week; and 221, or 30 per cent., of the deaths occurred in public institutions. The causes of 19, or 2·6 per cent., of the deaths in the eight towns last week were not certified or not stated; in the 77 largest English towns the proportion of uncertified causes of death last week did not exceed 0·9 per cent.

HEALTH OF IRISH TOWNS.

In the 22 town districts of Ireland, having an estimated population of 1,163,596 persons, 614 births and 437 deaths were registered during the week ending Feb. 4th. The annual rate of mortality in these towns, which had been equal to 19·3 and 21·3 per 1000 in the two preceding weeks, declined to 19·6 in the week under notice. During the first five weeks of the current quarter the death-rate in these towns averaged 19·9 per 1000, whereas in the 77 largest English towns during the same period the death-rate did not exceed 15·7, and in the eight principal Scotch towns the rate was 15·9 per 1000. The annual death-rate in the week under notice was equal to 24·1 in Dublin, 16·8 in Belfast, 20·5 in Cork, 14·3 in Londonderry, 20·5 in Limerick, and 19·5 in Waterford; in the 16 smallest of the Irish town districts the annual death-rate averaged 16·7 per 1000. The 437 deaths from all causes in the 22 towns showed a decrease of 39 upon the number returned in the previous week, and included 30 which were referred to the principal epidemic diseases, against 25 in each of the two preceding weeks; these 30 deaths were equal to an annual rate of 1·3 per 1000, which was 0·4 below the corresponding rate during the same period in the principal Scotch towns. Of these 30 deaths from the principal epidemic diseases, 9 resulted from whooping-cough, 9 from diphtheria, 5 from enteric fever, 5 from diarrhœa, and 2 from measles, but not one from small-pox or from scarlet fever. The fatal cases of whooping-cough, which had been 9, 11, and 18 in the three preceding weeks, declined to 9 in the week under notice, of which 4 occurred in Dublin and 3 in Londonderry. The deaths attributed to diphtheria, which had been 2, 7, and 3 in the three previous weeks, rose to 9, and included 5 in Dublin and 3 in Dundalk. Of the 5 fatal cases of enteric fever 3 belonged to Dublin and 2 to Limerick. The 5 deaths recorded from diarrhœa and the 2 deaths from measles were registered in Dublin. The deaths in the 22 towns referred to diseases of the respiratory system, which had been 105 and 113 in the two preceding weeks, declined in the week under notice to 107. The 437 deaths from all causes included 148, or 34 per cent., which occurred in public institutions. The causes of 13, or 3 per cent., of the deaths in the 22 towns were not certified either by a registered medical practitioner or by a coroner; the proportion of uncertified causes last week did not exceed 0·6 per cent. in the 77 English towns, and was equal to 3·3 per cent. in the principal Scotch towns.

In the 22 town districts of Ireland, having an estimated population of 1,163,596 persons, 623 births and 538 deaths were registered during the week ending Feb. 11th. The annual rate of mortality in these towns, which had been equal to 21·3 and 19·6 per 1000 in the two preceding weeks, rose to 24·1 in the week under notice. During the first six weeks of the current quarter the annual death-rate in these towns averaged 20·6 per 1000, whereas in the 77 largest English towns during the same period the death-rate did not exceed 16·0, and in the eight principal Scotch towns the rate was 16·6 per 1000. The annual death-rate last week was equal to 27·4 in Dublin, 19·1 in Belfast, 27·4 in Cork, 20·2 in Londonderry, 24·6 in Limerick, and 33·1 in Waterford; in the 16 smallest of the Irish town districts the annual death-rate last week averaged 26·6 per 1000. The 538 deaths from all causes in the 22 towns last week showed an increased of 101 upon the number returned in the previous week, and included 26 which were referred to the principal epidemic diseases, against 29 and 30 in the two preceding weeks; these 26 deaths were equal to an annual rate of 1·2 per 1000, or 0·7 less than the corresponding rate from the same diseases in the principal Scotch towns. Of these 26 deaths from the principal epidemic diseases 8 resulted from whooping-cough, 7 from scarlet fever, 5 from diarrhœa, 2 from enteric fever, 2 from measles, and 2 from diphtheria, but not one from small-pox. The fatal cases of whooping-cough, which had been 11, 18, and 9 in the three preceding weeks, further declined to 8 last week, of which 4 occurred in Londonderry and 3 in Dublin. The deaths attributed to scarlet fever, which had been 1, 1, and 0 in the three previous weeks, rose to 7 last week, 4 of which were registered in Dublin. The 5 deaths from diarrhœa were equal to the number recorded in the previous week; in addition to these deaths, 9 others of infants under two years of age were recorded from enteritis. Of the 2 deaths from diphtheria, which were 7 less than the number returned in the previous week, 1 was recorded in Dublin and 1 in Armagh. The fatal cases of enteric fever and of measles were registered in Dublin. The deaths in the 22 towns referred to diseases of the respiratory system, which had been 113 and 107 in the two preceding weeks, rose to 141 in the week under notice. The 538 deaths from all causes last week included 174, or 32 per cent., which occurred in public institutions. The causes of 13 or 2·4 per cent. of the deaths in the 22 towns last week were not certified either by a registered medical practitioner or by a coroner; the proportion of uncertified causes last week did not exceed 0·9 per cent. in the 77 English towns, and was equal to 2·6 per cent. in the principal Scotch towns.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Fleet-Surgeon E. R. D. Fasken to the *Terrible* and for group of ships of Fourth Division, Home Fleet. Staff-Surgeon: K. H. Jones to the *Magnificent*, and to the *Irresistible* on commissioning. Surgeons: P. M. Rivaz to the *Pomone*, lent temporarily for Dartmouth Cadets' Sick Quarters; T. D. Liddle to the *Edgar* for voyage out, and to the *Torch* on

commissioning; and D. A. Mitchell to the *Terrible* and for group of ships of Fourth Division, Home Fleet.

ARMY MEDICAL SERVICE.

Colonel Douglas Wardrop, C.V.O., is placed on retired pay (dated Feb. 11th, 1911).

Lieutenant-Colonel Robert I. D. Hackett, from the Royal Army Medical Corps, to be Colonel, vice D. Wardrop, C.V.O. (dated Feb. 11th, 1911).

ROYAL ARMY MEDICAL CORPS.

The undermentioned Captains to be Majors (dated Jan. 28th, 1911):—James G. Gill, Thomas C. Lauder, Duncan E. Curme, Herbert S. Taylor, Francis J. Brakenridge, Nathaniel J. C. Rutherford, Gilbert J. A. Ormsby, Horace K. Palmer, Francis J. Palmer, Vincent J. Crawford, Arthur L. A. Webb, Howard Ensor, D.S.O.

Lieutenant-Colonel Samuel Townsend retires on retired pay (dated Feb. 8th, 1911).

The undermentioned Lieutenants are confirmed in their rank:—Wilfred W. Treves, Charles H. H. Harold, Eric L. Fyffe, Robert F. Bridges, Thomas J. Hallinan, John D. Bowie, Charles H. Stringer, Guy O. Chambers, John K. Gaunt, Leslie F. K. Way.

Lieutenant-Colonel A. E. Morris, on return from Kamptee (India), has been posted to the Cork District and appointed in charge of the Military Hospital at Cork in succession to Lieutenant-Colonel T. E. Noding, transferred to Hilsea. Lieutenant-Colonel G. Cree, from Madras, has taken up duty in the London District. Lieutenant-Colonel J. H. Daly has been transferred from Tipperary to Limerick. Lieutenant-Colonel C. Birt, from Dublin, has joined at the Curragh. Lieutenant-Colonel C. W. Johnson, from Gibraltar, has been appointed for duty in the Southern Command. Major D. Harvey, Specialist in the Prevention of Disease Eighth (Lucknow) Division, has been granted six months' leave of absence home from India. Major F. Smith, D.S.O., Sanitary Officer, Second (Rawal Pindi) Division, has been transferred from Murree to Rawal Pindi. Major G. B. Riddick, from Rangoon, has joined for duty at Maymyo. Major S. J. C. P. Perry, from Dover, has arrived in India. Major S. L. Cummins has been placed on special duty at the Royal Army Medical College, Grosvenor-road. Major A. H. Waring, on completion of a tour of service in India, has been posted to Portland. Major J. C. Jameson, from Khartoum, has taken up duty at Cairo. Major G. B. Carter has been placed under orders to embark for India on March 3rd for service with the Northern Army. Major R. J. Blackham, sanitary officer of the First (Peshawar) Division, has been placed on special duty for three months in connexion with the St. John Ambulance Association (Indian Branch). Major W. G. Beyts and Major W. H. Nickerson, V.C., have embarked for a tour of service in India on the transport *Dongola* from Southampton. Major J. H. Campbell, D.S.O., from Mauritius, has taken up duty as Recruiting Medical Officer in the London District. Major F. R. Buswell, from the London District, has been posted to the Station Hospital at Jubbulpore. Captain J. A. Douglas, at present serving in the Dublin District, has been placed under orders for a tour of service on the West Coast of Africa (Sierra Leone). Captain L. L. G. Thorpe has been transferred from the Royal Victoria Hospital, Netley, to Tidworth Park. Captain M. B. H. Ritchie, from Murree, has taken up duty at the station hospital, Rawal Pindi. Captain A. W. Gater, on return from India, has been posted to the Cork District. Captain S. M. Adye-Curran has been appointed in charge of the Brigade Research Laboratory at Sialkot. Captain J. T. McEntire has been transferred from Newcastle for duty in the Irish Command. Captain F. C. Sampson, from Bloemfontein, has been appointed to the military hospital at Potchefstroom. Captain F. W. Dawson, at present serving at Dundalk, has been placed under orders to embark for India on March 3rd next for duty with the Southern Army. Captain E. G. R. Lithgow, on return from Aden, has been appointed to the Eastern Command. Captain W. F. H. Vaughan, on return to duty from leave of absence, has been posted to Cosham. Captain J. M. H. Conway has been transferred from Kilbride to Dublin. Lieutenant G. S. Parkinson, Lieutenant W. Mathieson, Lieutenant J. James, and Lieutenant A. M. Pollard have embarked for a tour of service in South Africa. Lieutenant M. J. Williamson has been transferred from Tidworth Camp to Cardiff.

INDIAN MEDICAL SERVICE.

The King has approved of the admission of the undermentioned gentlemen to the Indian Medical Service:—To be Lieutenants (dated July 30th, 1910): Phirozshah Byramji Bharucha, Richard William George Hingston, John Bailey Tackaberry, Charles Newton-Davis, Reginald Charles Clifford, Clive Newcomb, Henry Edward Shortt, Thomas Arthur Hughes, Latafat Husain Khan, Robert de Stretton Berkeley Herrick, Hargobind Lal Batra, Murray Purvis, Walter Oliphant Walker, Duncan McNab Taylor, and Vincent Philip Norman. To be Lieutenants on probation (dated Jan. 28th, 1911): John Scott, Alister Ralph Speirs Alexander, Frederick William Hay, "Kanwar" Indarjit Singh, Sidney Milverton Hepworth, Harry Slater Cormack, George Tate, George Selby Brock, Edward Slade Goss, John Frederick Henry Morgan, Krishnan Gopinath Pandalai, Jyoti Lal Sen, Charles Albert Wood, and Percival Sandys Connellan.

The King has approved of the retirement of Lieutenant-Colonel Hastings Norman Victor Harington (dated Nov. 28th, 1910), and of Major Charles Thomson (dated Jan. 30th, 1911).

Lieutenant-Colonel A. Street has been granted six months' extension of furlough on medical certificate by the Secretary of State for India. Lieutenant-Colonel C. H. L. Meyer has been appointed to officiate as Principal of the Grant Medical College at Bombay in succession to Lieutenant-Colonel H. P. Dimmock. Major J. H. McDonald has taken up duty as Presidency Surgeon, Bombay (Second District) in succession to Lieutenant-Colonel J. Crimmin, V.C., C.I.E. Major J. G. Murray has been appointed to officiate as Professor of Materia Medica at the Medical College, Calcutta, vice Lieutenant-Colonel J. T. Calvert. Captain M. I. Quirke has returned to India from leave. Captain A. W. Tuke has been appointed by H.E. the Governor of Bombay to be a Civil Surgeon of the Second class and to officiate as Resident Surgeon to St. George's Hospital in Bombay. The services of Captain C. L. Dunn, assistant plague medical officer at Jullundur, have been placed at the disposal of the United Provinces of Oudh and Rohilkhand. Captain L. P. Brassey has been appointed to officiate as Civil Surgeon at Meiktila during the absence on leave of Captain H. A. Dougan. Captain A. F. Baboneau, assistant plague medical officer at Amritsar, has been appointed District Plague Medical Officer at Ferozepore. The special leave of absence granted to Captain N. S. Wells, civil surgeon, United Provinces, has been commuted to furlough on medical certificate and extended by six months.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

The under-mentioned to be Lieutenants (on probation): Robert McCheyne Linnell (dated Jan. 6th, 1911); William Crymble (dated Jan. 13th, 1911); and Charles Alfred Bignold (dated Jan. 17th, 1911).

TERRITORIAL FORCE.

Royal Army Medical Corps.

2nd East Lancashire Field Ambulance, Royal Army Medical Corps: William James Purves to be Lieutenant (dated Dec. 21st, 1910).

2nd South Midland Field Ambulance, Royal Army Medical Corps: Lieutenant-Colonel Charles T. Griffiths reverts at his own request to the rank of Major (dated Feb. 15th, 1911). Major Charles T. Griffiths resigns his commission (dated Feb. 15th, 1911).

Attached to Units other than Medical Units.—Major Alfred C. Tunstall is retired, under the conditions of paragraph 116, Territorial Force Regulations, and is granted permission to retain his rank and to wear the prescribed uniform (dated Feb. 15th, 1911).

For attachment to Units other than Medical Units.—William Lang Hodge to be Lieutenant (dated Dec. 15th, 1910). Dudley Raymond Harris to be Lieutenant (dated Jan. 7th, 1911).

THE annual dinner of the West London Medico-Chirurgical Society will take place at the Wharncliffe Rooms, Hotel Great Central, Marylebone-road, W., on Feb. 22nd, at 7.30 P.M.

Correspondence.

"Audi alteram partem."

CHARLES BELL AND THE MOTOR AND SENSORY FUNCTIONS OF SPINAL NERVES.

To the Editor of THE LANCET.

SIR,—In his address on Sir Charles Bell published in THE LANCET of Feb. 4th, p. 290, Professor Arthur Keith repeats the ordinary statement that Sir Charles Bell discovered that the anterior root of a spinal nerve is motor, the posterior root sensory. For his facts he relies on authorities no further back than 1867, and although he makes mention of the privately printed pamphlet of 1811 entitled, "Idea of a New Anatomy of the Brain," he does not appear to have consulted that pamphlet in the original. I took occasion to do so 20 years ago when preparing a text-book of physiology. After a careful examination of the original pamphlet of 1811, as well as of Bell's first paper on the nerves in the Philosophical Transactions of 1821, 1830, and 1836, and of the reprint in 1824, I came to the conclusion that Bell had missed making the discovery. I wrote the following passage with original publications of Bell and of Magendie at my elbow: "These facts [i.e., anterior root motor, posterior sensory], inclusive of those dependent on recurrent sensory fibres, were discovered by Magendie (1822). Charles Bell (1811), to whom they are commonly ascribed, observed motion on excitation of the anterior roots of a recently killed animal and inferred that the anterior or 'cerebral' roots are motor and sensory, and that the posterior or 'cerebellar' roots serve to govern vital actions."[1]

I am, Sir, yours faithfully,

A. D. WALLER.

Physiological Laboratory, University of London, S.W.

TRANSPERITONEAL CYSTOTOMY FOR TUMOUR OF THE BLADDER.

To the Editor of THE LANCET.

SIR,—When reading the interesting paper under this title which appeared in THE LANCET of Jan. 28th, p. 214, from the pen of Mr. Seton Pringle, I remembered a case of epithelioma of the bladder operated upon by this method by Mr. Rutherford Morison during the time that I acted as his house surgeon. On referring to the hospital notes I find the date was so long ago as Oct. 17th, 1899, but as the case has never been published Mr. Pringle could not have been aware of its performance.

The patient was a woman of 48, and the growth, of the size of a florin, lay just above the left ureteral orifice. The peritoneum was freely opened, enabling the growth to be widely excised and the bladder repaired by immediate suture. Recovery was uninterrupted, and when the patient left the hospital on Nov. 2nd she was able to hold urine for three hours, and by February she did not require to get up at night. A year after the operation a definite recurrence was noticed in the pelvic glands, and when last seen, in March, 1901, although there were widespread deposits in the abdomen and left side of the neck, the patient had no bladder trouble whatever.

Since the time that I had the privilege of assisting Mr. Morison with this operation I have always kept the advantages of transperitoneal cystotomy before me, but it was not until January, 1909, that a suitable case came into my own hands. At that time I removed a large epithelioma from the bladder of a nurse, together with some enlarged glands from the right iliac artery, and so far she remains well and without signs of recurrence. Since then I have twice deliberately opened the peritoneum under similar circumstances—once in performing total removal of the male bladder for cancer, and once in assisting me to close an old-standing suprapubic fistula.

I think it may be a distinct advantage when operating for malignant bladder growths to make the opening of the peritoneum the first step in order that the condition of the glands and the abdominal aspect of the growth may be examined. As a result, it may be deemed unwise to proceed in the hope of a radical operation, or the glands may be safely dealt with and the area packed off before danger of contamination from the opened viscus.

I am, Sir, yours faithfully,

Newcastle-upon-Tyne, Jan. 31st, 1911. G. GREY TURNER.

[1] An Introduction to Human Physiology, third edition, pp. 485–6. Bibliography at p. 619, first edition.

A METHOD OF SERUM DIAGNOSIS FOR TUBERCLE.

To the Editor of THE LANCET.

SIR,—I quite understand that Dr. d'Este Emery was unable to go into full details in his letter of Jan. 7th, and I appreciated very much the kindliness of his criticisms. In reply to his letter of Jan. 21st it is clear that his method gives very different results to mine. I cannot by my procedure detect the presence of antibodies in normal sera, or in the sera of patients who have recovered from tubercle.

Dr. Emery, as far as I can judge, finds sufficient immune bodies in the sera of apparently healthy people to deviate complement in 30 minutes. He therefore from his point of view insists that an accurate standardisation of the tubercle emulsion is necessary. It must be obvious that if neglect of this point had affected my results I would also have resorted to this measure. I find that ten times the quantity of the emulsion (equal to 1·6 per cent. of bacillary substance) that I ordinarily use fails to deflect complement in my serum, even after 12 hours' contact at 60° F. A further proof of this is that equal parts of the emulsion and my serum incubated for two hours are unable to cause the phagocytosis of tubercle bacilli, but it will do so when mixed with an equal part of heated serum.

Each sample of dried tubercle bacilli is tested against a normal and a tuberculous serum, as the efficacy of the various samples varies. Generally, a sample which gives good opsonic differences gives also good complement fixation results. I estimated three of the emulsions used during the last four weeks, and found that after 15 minutes in a very fast electric centrifuge there was a deposit of bacilli equal to 1·6 per cent. of the total bulk of fluid in each case. I keep a standard emulsion made up with 1 per cent. salt and 0·5 per cent. carbolic, and approximate each newly made emulsion to this standard. I find that centrifuging for 30 minutes fails to precipitate all the bacteria. The bacteria I employ are fresh, and are killed by steaming at 100° C. for one hour; they are then dried at a low temperature. The emulsion is neutral, and deposits a very little in 24 hours. It is made freshly every second day, and is never heated. With each test two or three normals are put up.

I find that immune bodies soon disappear from the sera of tuberculous patients on recovery—e.g., two cases of tubercle of joints and two of lung which lost the reaction in six weeks with improved health. When the disease is slight or the lesion quiescent exercise and massage are necessary to obtain a reaction. When the disease is acute and the opsonic index above normal, 1-200 000th milligramme of tuberculin, inoculated, is able to nullify the reaction. This suggests that the quantity of immune bodies may be extremely minute. The special advantage of this complement fixation test is that a decided positive determination is obtained, frequently impossible by other methods. When there is only a reduction of hæmolysis the experiment is repeated with 20 cubic millimetres of emulsion. If there is still a trace of hæmolysis I read the result negative. If the result is negative after two or three examinations and the physical signs show active disease I consider that tubercle can be excluded. Further observations will also demonstrate, I believe, that this fixation test can be relied upon as an indication of the cure of tubercle.

As regards hæmolysis, I find that abnormal sera have greater destructive power on sheep's corpuscles than normal sera, unless the disease is severe and the condition of the patient bad. As regards the opsonic index, I believe that this is only another method of demonstrating the Bordet-Gengou reaction. The same factors which influence hæmolysis also appear to influence phagocytosis. When the quantity of complement is constant an increase of specific

immune body increases the phagocytosis. In the absence of either immune body or complement the phenomenon ceases. An excess of immune body deflects complement in the presence of the specific bacillus.

Hæmolytic observations show that a subnormal opsonic index in a patient suffering from tubercle is frequently accompanied by a high degree of immunity, and may be regarded as a favourable sign, this contrary result being due to fixation of the complement in the opsoniser. I think that a supernormal index is due to the presence of immune bodies, but not sufficient in quantity to fix the majority of the complement. This condition is therefore more unfavourable than a normal or a subnormal index. A natural fall of the index to normal may be regarded as a favourable sign, as showing an increase of the immune bodies. The sudden fall of a supernormal index after inoculation I think is due to the neutralisation of the immune bodies, and the rise of a subnormal after an intravenous inoculation to a reduction of the immune bodies.

Some of the experiments demonstrating these points are as follows: 1. Antigen of heart muscle greatly reduces (on previous incubation) the phagocytosis of staphylococci with syphilitic sera, but not with normal sera. 2. If a serum with a constant subnormal index—e.g., 0·5—be heated to 52° C. for 15 minutes and then mixed with an equal part of tubercle emulsion and left for two hours at room temperature (60° F.), this, when incubated with an equal part of de-immunised serum and corpuscles, will give a phagocytic count from two to three times as great as normal serum. 3. If 4 parts of heated and 1 part of unheated serum be incubated with tubercle emulsion (60° F., two hours) and then 1 volume of this be incubated for 15 minutes with 1 volume of staphylococci and 1 volume of leucocytes, a normal serum shows three to four times more phagocytosis (T.B.) than the tuberculous. The staphylococci are employed to further reduce the complement.

As regards hæmolytic observations by Hecht's method, its convenience is its advantage, and as heated serum is employed the amboceptor difficulty is decreased. In case of difficulty, or when the serum is old, I use my own fresh serum and the patient's heated serum.

Since sending my article for publication I have altered the technique on a few points: (1) The serum is heated for 15 minutes at 125° F. (52° C. nearly) in place of 56° C. for ten minutes; (2) the fixation reaction is allowed to take place at room temperature (60° F.) in place of 98° F.; (3) the tubercle emulsion is added last, after the serum has been diluted with hypotonic salt made with tap-water; and (4) two hours' old serum can be used.

I am, Sir, yours faithfully,

Ealing, Feb. 11th, 1911. V. NESFIELD.

NOTIFICATION OF MEASLES.

To the Editor of THE LANCET.

SIR,—I am instructed by the executive council of this league to inform you that at its meeting held on Friday last the following resolution was unanimously passed:—

That in view of the widespread incidence and considerable mortality amongst the children of the poor, and having regard to the very serious consequences of measles, that disease ought to be compulsorily notifiable.

We should be much obliged if you would notice this resolution in an early issue of your journal.

I am, Sir, yours faithfully,

J. HALFORD,
Secretary, National League for Physical Education and Improvement.

Tavistock-square, W.C., Feb. 13th, 1911.

CHICHESTER INFIRMARY.—At the annual meeting of the supporters of the Chichester Infirmary and Dispensary on Feb. 9th plans were adopted for reconstructing the old building, which is 85 years old, as a memorial to King Edward, who so frequently visited it during his stays at Chichester. The plans provide for bringing the building thoroughly up-to-date in every way, but at the same time the old character of the building will be strictly preserved. The cost of the scheme is roughly put at £14,000, towards which Mr. William James, of West Dean Park, King Edward's frequent host at Chichester, has given £10,000.

BRISTOL AND THE WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

Bristol Eye Hospital.

THE 100th annual meeting of the subscribers to the Bristol Eye Hospital was held on Feb. 6th under the presidency of Sir Charles Cave. The medical report stated that for the year ended September, 1910, 474 in-patients were admitted and 7061 out-patients were treated. The financial statement showed the institution to be free from debt. The income from invested funds was about £500 per annum, and the committee states that in order to carry out the work of the charity satisfactorily the subscription lists should be raised to a sum of £1000 annually. The profits of the fête which was held last year amounted to over £1600, and enabled the deficit balance which existed against the hospital to be wiped out and also to establish a small nurses' home situated close to the hospital, where the nurses will have more convenient quarters, and the rooms which had been previously occupied by them can now be used for the accommodation of patients.

University Lectures on Social Subjects.

A series of evening lectures on social questions is being given by various speakers at the University of Bristol. The third of these, on public health, was recently delivered by Dr. D. S. Davies, the medical officer of health, who is also the lecturer on public health in the University. He gave a very interesting account of the health of Bristol in the Middle Ages, alluding to the devastating plague of 1349, which killed half the city, and to the three leper hospitals which are known to have existed in the fourteenth century. Even so recently as 1849, cholera claimed 2000 victims in Bristol. The death-rate, which in 1910 was 11·8, was 22·7 70 years ago. He hoped that the University would soon undertake the instruction and registration of women who would combine a practical knowledge of nursing with a knowledge of administrative work and hygiene. The fourth lecture, on the treatment of the feeble-minded, was given by Mrs. Hume Pinsent, a member of the recent Royal Commission.

A Hospital Nurse's Brave Conduct.

The committee of the Bristol General Hospital at a recent meeting congratulated one of the nurses on the remarkable bravery which she showed in dealing with a delirious patient. About 4 A.M. the man in question, a burly dock-labourer suffering from pneumonia, suddenly and without warning became delirious and jumped on the window-sill. The nurse, who was just coming into the ward, seized him, but he broke a pane of glass and climbed out on a sloping roof which lies just outside the window. The nurse followed him through the broken window and struggled with him on the roof, which is 10 feet wide and protected from a sheer drop of 30 feet by a parapet which is about a foot high. In the struggle he broke a skylight and fell through it to a verandah 16 feet below, breaking several ribs. The nurse fortunately escaped, and though the patient died his condition was so bad that he could not have recovered even if there had been no accident.

The Lord Mayor's Hospital Sunday Fund in Bristol.

The collections devoted to this fund and handed in by Feb. 10th have amounted to £1201 0*s.* 9*d.*, as compared with £1084 0*s.* 5*d.* received last year by the same date. There are about 200 collections yet to come in, 327 having been received so far.

Clifton Dispensary.

At the annual meeting of the friends of this charity, held on Feb. 6th, it was stated that the admissions to treatment during 1910 included 2420 medical, 312 surgical, and 71 midwifery cases. In spite of an increase of £20 from subscriptions, donations, and collections, there was an adverse balance of £8 8*s.* 4*d.* at the end of the year.

The Importation of Diseased Beef in Bristol.

Dr. D. S. Davies has reported to the health committee of the city of Bristol the discovery by one of his food inspectors of disease in consignments of beef arriving in the port of Bristol from Australia. Similar observations had been made

in the port of London. Nodular masses were found embedded in the meat which consisted of aggregations of a parasitic worm, spiroptera reticulata. Although the ingestion of this dead worm would not infect human beings, yet such meat is clearly unfit for food, and steps are being taken in Australia to prevent exportation of diseased portions. The Bristol investigations applied to 500 forequarters, 306 of which were affected, and 500 hindquarters, 64 being affected.

Backward Children.

At a meeting of the Bristol branch of the Parents' National Education Union held on Feb. 9th at Clifton College, under the presidency of Mr. J. E. King, headmaster of the College, an interesting lecture was given by Dr. G. H. Savage on Backward Children.

Taunton and Somerset Hospital.

The annual meeting of the subscribers to the Taunton and Somerset Hospital was held at Taunton on Feb. 9th under the presidency of the Hon. E. B. Portman. The medical report was satisfactory, but the financial statement showed a deficit of £1710 against the institution. It was decided that in the summer a strong effort should be made to celebrate the centenary of the hospital by the establishment of an endowment fund. It is proposed to try to raise £30,000.

The Water-supply of Chard (Somerset).

At the last meeting of the Chard town council it was decided to purchase land for the proposed new water scheme for the town. The water-supply will be obtained by a gravitation scheme, and the cost of the undertaking will be about £8000.

The Care of the Feeble-minded.

The Taunton board of guardians has recently proposed a scheme whereby all the pauper idiots, imbeciles, and epileptics in the various workhouses in Somerset should be placed in one institution in that county. A meeting, at which representatives from every union in Somerset were present, was held at Taunton last week. After a considerable discussion it was unanimously decided to approach each board of guardians in the county and ascertain whether one of these bodies could allow a workhouse or a portion of such an institution to be used for the proposed scheme.

Peter Pearson Johnson, M.B., Ch.B. Edin.

Dr. P. P. Johnson died at his residence, Henley Lodge, Yatton, Somerset, on Jan. 29th, in his fifty-eighth year. Dr. Johnson graduated M.B., Ch.B. of Edinburgh in 1877, and shortly afterwards went to Yatton, where he soon acquired an extensive practice. He was district medical officer for Yatton, surgeon to the employees of the Great Western Railway and the post office, and also certifying factory surgeon. Dr. Johnson took a great interest in all local matters, and was formerly chairman of the Yatton parish council. He was a prominent Freemason and a strong churchman. He was very popular in Yatton, and much sympathy is felt there for his widow and children. The funeral took place on Feb. 1st and was largely attended, many Freemasons being present, including Colonel W. Long (Provincial Grand Master of Somerset). Representatives of the Yatton parish council, the Oddfellows, the Church of England Men's Society were also present, as well as the Dean of Bristol (Dr. Pigou) and a large number of local members of the medical profession.

The Research Defence Society.

A local branch of the Research Defence Society for the "Three Towns" has been formed at Plymouth.

Medical Officer of Health of Cornwall.

At a meeting of the Cornwall county council held on Feb. 8th three candidates were interviewed in connexion with the appointment of medical officer of health for the county. Mr. Robert Burnet, M.Sc., M.B., Ch.B. Vict. and Liverp., D.P.H. Birm., was eventually appointed, securing 41 votes against 25 and 3 obtained by the other applicants respectively. The salary of the post is £500 per annum, increasing by annual increments of £20 to £600, in addition to travelling expenses. Dr. Burnet is at present medical officer of health of Bury, medical officer to the education authority, and medical superintendent of the Bury and District Joint Hospital Board fever and small-pox hospitals.

Feb. 14th.

WALES.

(FROM OUR OWN CORRESPONDENT.)

Medical Officers of Health for Brecknockshire and Cardiganshire.

THE Brecknockshire county council has elected Mr. J. C. Bridge, medical officer of the Dunfermline Trust, as medical officer of health and school medical officer of the county of Brecknock at an annual salary of £500 in addition to travelling and office expenses. When the election took place on Jan. 27th exception was taken by some members of the council to the fact that among the six candidates who had been selected by a committee to appear before the council not one could speak Welsh. A member of the committee thereupon expressed regret that the salary offered was so small, and stated that if it had been higher a Welsh-speaking official might have been appointed. For the position of medical officer of health and school medical officer of Cardiganshire there were only five applicants, the salary, which includes travelling expenses, being £450 per annum. Two of the candidates withdrew their applications, and at the meeting of the council on Feb. 9th Mr. R. W. Rees, who was at one time medical officer of health of the Llandilofawr urban and rural district councils, was elected.

Pollution of the River Wye.

The water-supply of the city of Hereford is drawn from the river Wye, into which the untreated sewage of the town of Hay is discharged about 30 miles above the Hereford intake. After trying in vain to induce the Hay district council to take suitable steps to prevent the pollution the Hereford corporation has at length decided to take definite action, in conjunction with the county council, with a view of compelling the Hay authority to undertake the necessary remedial measures.

Cardiff Infirmary: Scheme for Payment by Patients.

The board of management of the Cardiff Infirmary has decided to carry out experimentally for one year a scheme under which each patient will be expected to contribute to the funds of the institution unless obviously too poor to do so. It is proposed that each in-patient should pay sixpence per day and each out-patient threepence per week. At the festival dinner of the infirmary held on Jan. 25th the sum of £2800 was subscribed towards the funds of the institution. Lord Tredegar, who presided, pointed out how absolutely essential it was to have a medical school attached to a large infirmary. He referred also to the necessity for adequate accommodation for research work.

Aberystwith Infirmary.

The Aberystwith Infirmary and Cardiganshire General Hospital was established in the year 1821 as a dispensary. It has now accommodation for 27 patients. During 1910 there were treated in the wards 161 patients, and 1004 persons attended the out-patient department. The expenditure amounted to £919 and the income received was £752. The subscription list of £161 seems a meagre one; indeed, if it were not for the assistance rendered from a special trust fund, which contributed over £500 in 1910, it would be impossible to carry on the institution. Sir John Williams has recently been appointed consulting physician to the infirmary.

Pontypridd Workhouse.

The Pontypridd Union is a large one, including as it does not only the town of Pontypridd but also the adjoining Rhondda urban district. The workhouse is situated in the centre of Pontypridd, and in recent years there has been established a secondary workhouse for old people in the Rhondda, while in another direction the children are housed in cottage homes. The nursing accommodation at the older workhouse is quite inadequate for the needs of the institution. In a special report upon the matter, Mr. Howard Davies, the workhouse medical officer, has urged very strongly the necessity for remedying the existing conditions. There is a lack of accommodation for the nurses when they are on duty, and the only sitting-room provided for them is badly ventilated, dingy, cheerless, and altogether uncomfortable. The bathrooms and annexes are quite out of date, so that the ward utensils have to be cleansed in the same sink with plates, mugs, cups, &c. A subcommittee of the board of guardians

has recommended that a separate building should be provided for the nurses and that the bathrooms and annexes should be reconstructed.

Housing in Monmouthshire.

In a report presented to the Local Government Board in 1905 Dr. W. W. E. Fletcher referred to the unsatisfactory condition of many of the houses in the urban district of Nantyglo and Blaina in the Monmouthshire colliery district. Many of the circumstances which he described appear to be still in existence and are referred to in a report which has recently been made by the medical officer of health of the district, Mr. H. C. Bevan. Of 960 houses in one particular locality there are 442 with no through ventilation, and 187 have no system of drainage. Instances are given in the report of back-to-earth cellar dwellings which are occupied by families consisting of from five to eight persons, and one case in which a two-roomed cellar dwelling was occupied by two adults and seven children.

Feb. 13th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Liverpool School of Tropical Medicine: Plague in China; Sleeping Sickness; Another Expedition to Rhodesia.

AT a meeting of the School of Tropical Medicine held recently, Mr. W. H. Lever (the chairman) presiding, it was unanimously resolved to send the following telegram through the Chinese Minister to the Chinese Government, in view of the great ravages caused in Manchuria at present by the plague, viz.:—

The President and Committee of the Liverpool School of Tropical Medicine offer to the Chinese Government the services of an experienced commissioner to proceed to Manchuria and assist in combating the outbreak of plague. Would be much obliged if your Excellency would communicate the offer to the proper quarters and advise the school whether offer accepted.

The following telegram has been received in reply:—

Secretary Milne, Tropical School, Liverpool,—Many thanks for your telegram and your kind offer. Question under urgent consideration with British Government, who will associate themselves with the measures to be taken. CHINESE MINISTER.

It will be of melancholy interest to note that the devoted and self-sacrificing missionary, Dr. A. F. Jackson, who has just fallen a victim to the plague in his endeavours to assist, by his skilled knowledge, the terrified inhabitants of Manchuria, was quite recently a student at the Liverpool School of Tropical Medicine. The other two martyrs of the school were Dr. Walter Myers and Dr. J. Everett Dutton.

The British South Africa Company has decided upon the despatch of a special commission with the object of investigating sleeping sickness in Rhodesia. The commission will consist of Dr. Aylmer W. May, principal medical officer of Northern Rhodesia; Dr. A. Kinghorn, of the Liverpool School of Tropical Medicine; Mr. H. Leach, of Northern Rhodesian Medical Service; Mr. O. Silverlock, entomologist; and Mr. Jollyman, bacteriologist. All the commissioners, with the exception of Dr. May and Dr. Kinghorn, are already in Africa. Dr. Kinghorn will sail from England on Feb. 18th, and will be followed later by Dr. May. An expedition sent out by the Liverpool School of Tropical Medicine is already on its way to the Congo, under Professor J. L. Todd, well known in connexion with sleeping-sickness research, and two assistants; and it is proposed that a further Commission shall go from this country to conduct separate investigations in another part of the Congo. Dr. May informs the Press Association that sleeping sickness in the Luangwe Valley of North-east Rhodesia, where the Chartered Company's commission is about to work, is of an entirely different type from that of ordinary sleeping sickness, inasmuch as it is evident that it is not transmitted by the glossina palpalis. This insect does not exist within 200 miles of the Valley, and the majority of those attacked have never been in the palpalis area. It is suggested that this disease is carried by the morsitans fly, an insect which, unlike the palpalis, is not confined to well-defined limited areas in the neighbourhood of water, but is distributed over large areas. It does not seem to follow, however, that because the morsitans is a disease-carrier at one altitude it is necessarily equally dangerous under other climatic conditions. Five Europeans have been stricken with this form of sleeping sickness, of whom three are dead and two are under treatment. Dr. May expresses the opinion that if the conditions agreed to by the conference which has just been held at the Foreign Office are carried out there is not much danger of the disease spreading from the Congo southwards with the extension of the railway. With proper precautions there is no cause for alarm, as the conditions in Northern Rhodesia are entirely unsuitable to the spread of the malady. Dr. Kinghorn is one of the most distinguished workers in the Liverpool School of Tropical Medicine, with which he has been associated during the last five years. He has been on two previous expeditions in Africa for the purpose of investigating the causes of sleeping sickness. His investigations have been varied and extensive.

Death of Dr. A. F. Jackson.

The death of Dr. A. F. Jackson on Jan. 26th, from plague, at Mukden in Manchuria, came as a great shock to his numerous friends in Liverpool. Dr. Jackson left this country last autumn to begin work as a medical missionary in Manchuria, where he arrived in November last, so that he died on the very threshold of a life's work which was full of promise. He was born in Oxton, Cheshire, 26 years ago, and was educated at Merchant Taylors' School and at the University of Cambridge. He had a brilliant career at Cambridge, and afterwards studied medicine at the University of Liverpool, where he graduated as M.B., C.M. He also received the Diploma of Tropical Medicine.

Feb. 14th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Carnegie Trust.

THE ninth annual meeting of the Carnegie Trust was held on Feb. 7th at the Westminster Palace Hotel, London, the Earl of Elgin presiding. The ninth annual report for the year 1909–10 submitted by the executive committee showed that the success of the research scheme of the Trust was being well maintained. The sum of £6824 had been expended upon fellowships, scholarships, and grants, and £2454 upon the laboratory, towards which latter the Royal College of Physicians of Edinburgh and the Royal College of Surgeons of Edinburgh together contributed £1025. The class fees paid during the year amounted to £48,540 2*s.*, an increase of £1184 6*s.* 6*d.* as compared with the preceding year. The beneficiaries in the winter session 1909–10 numbered 3676 and in the summer session 1353. The average amount paid per beneficiary was £12 12*s.* 9*d.* Certain other beneficiaries had received fees for classes taken outwith the academic year and others for the summer vacation courses in Edinburgh. The executive committee called the attention of the Trust to the fact that the increasing expenditure on class fees made it possible, if not probable, that there would be a deficit against the transactions under Clause B. The committee considered that as they could not protect themselves against the occurrence of a deficit in future years under the present system it ought to be amended without delay. They must in the first place announce that they could not continue to pay the fees in full. Secondly, the system of paying for separate classes must be abandoned. If the system of composite fees were adopted by the universities it might be possible for the Trust to pay such a proportion of those fees as their funds permitted. If the universities did not succeed in making such an arrangement it might be necessary for them to determine a scale of fees on the same principle for themselves. It seemed reasonable that the interests of beneficiaries already on the roll should be protected as far as possible. Thirdly, the amount they could afford to pay would be more easily determined if some scheme could be adopted for enrolling the names of applicants in advance. Fourthly, it could cause no hardship to require students who had already been receiving payment to inform them before the end of the summer session whether they intended to apply again in October or to require new applicants to give a similarly early notice. Fifthly, it did not in the least follow that if these suggestions were adopted the scale of

their allowances would become unsettled or would vary from year to year, or that the discussion in the future of further changes would be precluded. The main objects of these proposals were (1) to prevent any chance of the fund becoming bankrupt for a longer period than the year now current; and (2) to adopt a machinery that might be made effective for more than one occasion if need be. The committee referred to allegations which had been made that the payment of fees was accepted by students whose private means were sufficient to defray their expenses. In several cases where gross abuse had been alleged inquiry had shown an amount of misrepresentation and exaggeration which had rendered any action inadvisable. The committee called attention to the fact that up to Sept. 30th, 1910, 75 beneficiaries had voluntarily refunded the class fees paid by the trust on their behalf, the sum amounting in all to £1689 1*s.* 4*d.* It was not to be expected that in the early years of the trust beneficiaries would be in a position to avail themselves of this privilege; and the fact that in the past year fees to the amount of £549 had been repaid—more than double the amount paid in any previous year—was an undoubted proof that the system could, and did, encourage honourable sentiments. Lord Elgin, in moving the adoption of the annual report, drew attention to the satisfactory nature of the reports relating to research. Referring to the payment of fees, he was confident that it was not true that general or flagrant abuses or misappropriation of the fund had prevailed, while the gratifying increase in the amount of fees repaid showed that students were not unwilling to avail themselves of opportunities to discharge honourable obligations. He pointed out that the increase of beneficiaries was practically the same as the increase in matriculated students in the last nine years; this might be merely a coincidence, but the increase might be due to the development of the secondary schools, and these students might be well qualified for assistance. The motion of the Chairman was seconded by Mr. Haldane, who referred especially to the importance of the work of the Carnegie Trust in stimulating research. Sir Arthur Rücker then spoke in appreciation of the work done by the Trust. Lord Balfour of Burleigh moved a vote of thanks to the Chairman, which was seconded by Lord Reay. Principal Sir William Turner referred to the enormous benefits conferred on the Scottish universities by the munificent benefaction of Mr. Carnegie and referred in complimentary terms to the work of the executive committee.

Complimentary Dinner to Dr. William Craig of Edinburgh.

On Feb. 8th the Fellows of the Edinburgh Obstetrical Society entertained Dr. William Craig to dinner at the Caledonian Station Hotel on his retirement from the treasurership of the society, a post that he had held for 35 years. About 40 Fellows were present, and the President of the society, Dr. F. W. N. Haultain, occupied the chair. The toast of the evening was proposed by Sir A. R. Simpson, who, in presenting Dr. Craig with a silver tea and coffee service, referred to the great services he had rendered to the society.

Reconstruction of Hospitals in Glasgow.

For many years the hospital accommodation in Glasgow has been felt to be inadequate, and with the ever-increasing demand for beds the difficulty in dealing with cases requiring and deserving hospital treatment has become greater in the last five years. That the governing boards of the various hospitals have risen to the situation is evident when one considers that within the last three years the Maternity Hospital has been rebuilt on a very large scale, the Cancer Hospital has been practically rebuilt, the Royal Samaritan Hospital for Women has been enlarged, the Western Infirmary has added a new block to its buildings, the Royal Infirmary is being entirely rebuilt on the same site, and the Royal Hospital for Sick Children is to be rebuilt immediately on a better site and with more than double its present accommodation. In the plans for the new Sick Children's Hospital arrangements have been made for a 300 cot hospital on a fine site extending over ten acres, but in the meantime it is intended to erect accommodation for about 200 cots. That means that it will be possible to treat 3000 children in the institution per annum as compared with 1000 in former years. The estimated cost, £120,000, will be exceeded, but the directors now have £102,000 in hand. The Royal Infirmary also is in process of reconstruction. The operations began in 1905, and in April, 1907, His Majesty King George, who was then Prince of Wales, laid the foundation stone. Since that time great progress has been made with the undertaking, but the new work is so much surrounded by the existing buildings, which have been retained as far as possible so that the bed accommodation may not be restricted during the present operations, that the passer-by gets only the vaguest idea of its nature and extent. The block at present being built is that for special diseases, together with the third section of the surgical block which will then be complete and will contain 290 beds. The new pathological block is also nearly completed, and it is the intention of the directors to proceed at an early date with the erection of a portion of the new medical block, which embraces nearly one-half of the main frontage upon Cathedral-square, together with the east wing which connects the Cathedral-square block with the central or special diseases block.

Aberdeen Royal Infirmary and Lunatic Asylum.

The annual general meeting of the corporation of the Royal Infirmary and Lunatic Asylum of Aberdeen was held in the infirmary hall on Feb. 8th, Lord Provost Wilson presiding. Mr. Peterkin, chairman of directors, in moving the adoption of the annual report, referred to the question of hospital abuse. He pointed out that those who improperly took advantage of the infirmary were not only unfairly taking gratuitous services from the physicians and surgeons, but were dishonestly using funds not subscribed for their benefit. A proposal to increase the infirmary directorate from 9 to 11, in order to allow of the inclusion of more working-class representatives, was defeated by a large majority.

Open-air Recovery Schools: Aberdeen Medical Officer's Report.

At a meeting of the school administration committee of the Aberdeen school board held on Feb. 6th a report by the medical officer, Dr. G. Rose, on open-air recovery schools was considered. Dr. Rose remarked that although theoretically such schools form an alluring and fascinating picture to the educationist, the philanthropist, and the school medical officer, when the scheme comes to be considered as part of the educational system difficulties arise. Such questions as—What class of children require treatment in open air, and what number, say, in a place like Aberdeen? What are the possibilities of providing such a school in a proper place? Is transit to the school possible and satisfactory? Would the cases most in need of treatment stand the fatigue of transit? Would the climatic conditions allow such schools to be conducted with benefit and success? Might not better results be got by different methods at a less cost? How may the relative value of the different factors acting on the child in the open air be estimated? May not a greatly diminished curriculum, an increase in number of meals, better quality of food, and mid-day sleep be factors as important as the massive stimulation of country air?—all these must be settled before a satisfactory answer can be given to the possibility of providing such a school. Dr. Rose treats the matter at greater length. With regard to suitable cases, cases of tuberculous lung disease are at once excluded on the ground of danger to the others; even those in the pre-tuberculous stage, though suitable for treatment, will not be available on account of the clinical impossibility of selecting them. If the same class were sent to the schools as are sent in Germany—namely, the backward children, who are physically debilitated, anæmic, &c.—and if the proportion of such children was the same in Aberdeen, sooner or later Aberdeen would have to provide for the outdoor education of 2500 or 3000 children. Site, buildings, transit, school-hours and food, education, cost, are all fully considered in the report.

Elgin County Council and the Medical Inspection Question.

The Elgin county council met on Feb. 6th, when there was submitted a minute of the joint meeting of the subcommittees of the county council and the secondary education committee, with regard to the terms they proposed for the joint appointment of a medical officer for the county and the inspection of schools. It may be stated that the county council proposes to pay £205, and the secondary education committee £245, the sum of £205 by the county council to include all expenses. After some discussion the recommendations of the subcommittees were adopted.

Feb. 14th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Infective Disease in Dublin.

INFECTIVE disease in Dublin is arousing anxiety and putting a strain on hospital accommodation. Measles, whooping-cough, diphtheria, scarlet fever, and enteric fever are all present and increasing. Some six cases of each of the three last named are notified daily, while many cases apparently go without notification. Measles and whooping-cough are not notifiable in Dublin. Sir Charles Cameron, medical officer of health, has suggested milk as the distributer of typhoid and scarlatinal infection. On his advice most of the primary schools in the city have been closed. Should the outbreak continue steps will be necessary to provide hospital accommodation.

Bequests to Dublin Hospitals.

Last week the executors of the late Miss Augusta Magan applied to the Master of the Rolls for permission to hand over one-third part of her estate, some £20,000 to Sir Patrick Dun's Hospital and one-third to the Adelaide Hospital. This proposal was approved. The executors wished to apply the remaining third to the maintenance of a district nurse at Enfield, in the county Meath, or to devote it to the Meath Hospital, Dublin. The first alternative was declined, the consideration of the second postponed.

Royal College of Surgeons Dinner.

The annual dinner of the Royal College of Surgeons in Ireland was held on Feb. 11th in the hall of the College, Mr. R. H. Woods, the President, presided, and His Excellency the Lord Lieutenant of Ireland was the principal guest. The heads of the various colleges and professional bodies were also present in honour of the 127th anniversary of the granting of the College Charter. His Excellency, in his speech, referring to the death-rate from tuberculosis last year, said that in the Dublin registration area there had been a further drop of 0·1 since 1909—viz., from 3·8 per 1000 in 1909 to 3·7 in 1910, which he hoped indicated a permanent tendency to decrease. The decrease had been in the deaths from pulmonary tuberculosis. He urged the provision of some scheme to provide for children with surgical tuberculosis the advantages of sea air and good food.

Public Health in Kingstown.

The urban council of Kingstown has decided not to appoint a successor to the lately deceased superintendent medical officer of health, leaving to the dispensary medical officers the entire responsibility in future. A residential seaside district of 17,622, with a death-rate of 26·6 per 1000, seems to require more rather than less sanitary supervision.

Outbreak of Enteric Fever in Lurgan.

At the monthly meeting of the Lurgan urban council on Feb. 6th Dr. Samuel Agnew, medical officer of health, referred to a severe outbreak of enteric fever, between 30 and 40 cases having been transferred to the local hospital and two deaths having occurred, and intimated that the dissemination had occurred through a milk-supply contaminated, it was strongly suspected, by a typhoid carrier. The outbreak emphasised the necessity that existed for sanitary authorities enforcing strictly the regulations necessary for safeguarding milk-supplies. Dr. Agnew pointed out that as a large proportion of the milk-supply of Lurgan was brought in from the adjoining districts it behoved them not only to maintain a strict surveillance within their own district, but also to take cognisance of the manner in which the Dairies Order was carried out in their immediate neighbourhood. It appears the only power the urban council had over rural councils was to implore them to see after this work, and if they refused, to appeal to the Local Government Board, which could give them power over the dairies outside the town boundary, but that was a course they rarely appeared anxious to adopt. The clerk of the Lurgan urban council was instructed to ask the clerks of the Moira and Lurgan rural councils to enforce strenuously the power invested in them under the Dairies' Order and the Public Health Acts.

Royal Sanitary Institute Congress.

In connexion with the Congress of the Royal Sanitary Institute, which is to meet in Belfast from July 24th to 29th, under the patronage of the Lord Lieutenant, with Lord Dunleath as President, there are to be two sections: (1) Sanitary Science and Preventive Medicine, with Sir Lauder Brunton, Bart., as President; and (2) Engineering and Architecture, with Mr. W. K. Parry as President. The Lord Mayor of Belfast will preside over the conference of municipal representatives, and the Lady Mayoress over the conference of women on hygiene. The chairman of the public health committee, Dr. R. Thomson, will preside over the conference of port sanitary authorities; Sir Charles A. Cameron, C.B., over that of medical officers of health; Mr. P. C. Cowan, D.Sc., over that of engineers and surveyors; Mr. David Rutherford over that of sanitary inspectors; and Sir John Byers over that on the hygiene of childhood.

A Novel Offer.

On Feb. 11th, at the weekly meeting of the Coleraine board of guardians, a letter was read from Dr. James Steel, medical officer of Articlave dispensary district, proposing to appoint a trained general nurse altogether at his own expense, so that he should have the absolute control of her duties as well as the responsibility.

Feb. 14th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Technique of the Hypogastric Route.

AT a meeting of the Society of Paris Surgeons, Dr. Paul Delbet presented a study in detail of the technique of the hypogastric route. He pointed out the disadvantages from his own point of view that attend inflation of the rectum, and showed the advantages of distension of the bladder with air and the importance of thus limiting the area of peritoneum in the field of operation. He recommended the practice of suturing the bladder wall to the skin from the very outset, so as to avoid infection of the space of Retzius. As to drainage, he always used Freyer's method. M. Delaunay said that to prevent the escape of liquid into the pre-vesical space he fixed the bladder with Kocher's forceps, thus at the same time limiting the extent of the incision. He allowed the bladder to empty itself through the urethra before incising it. M. Thévenard said that he employed a sound in the bladder to cut down upon, making it appear just above the pubes; he then seized the bladder walls with a couple of Doyen's mouse-toothed forceps, the fatty layers and the peritoneal *cul-de-sac* were then folded back and the walls incised layer by layer; the point of the sound being held in place immediately above the pubes and not pushed forward, it served as a guide.

A Syndicate of Patients.

In Ferté-Macé there has just been established a "syndicate of patients." The medical practitioners of this place recently raised their scale of fees. The patients, not recognising in the general rise of the cost of living any justification for the raising of medical fees, protested. The profession, however, took no notice of their protest, so the inhabitants formed a syndicate and decided to bring into Ferté-Macé one or more medical men who should agree to treat their patients at the old rate.

Students of Dental Surgery.

The students in dental surgery in Paris have appeared before the Chamber of Deputies with a petition setting forth the demands of their body. They claim, in view of the five years of study imposed, of the courses in the hospital and the dissecting-room, and the complete and difficult examinations they have to undergo for their diplomas, that they are entitled to the right of competing for State positions directly involving their specialty, and particularly for the post of surgeon-dentist of the hospitals. It is not a priority that they demand but an equality in their specialty with the medical men who alone at present are admitted to compete for the post of surgeon-dentist at the hospitals. Further, they demand that in the army surgeon-dentists shall have the relative rank of major and have the care of the mouths of the soldiers, in place of being the drudges of the service.

Malta Fever and Mediterranean Fever.

The Governor of Malta has complained to his Government regarding the name "Malta fever," the condition called by

this name being, he avers, wrongly so-called, for it implies that Malta is the only focus of the disease, and thus keeps up commercially a prejudice against the island. He requests that the name may be changed to "Mediterranean fever." The British Government communicated with the French Government on the matter, and the latter referred the question to the Academy of Medicine, which appointed a commission of investigation. The commission, through the report of M. Widal, by way of giving satisfaction to the Governor of Malta, makes the following observations: (1) The term "Malta fever" was given originally out of respect for the physicians of the island, who were the first to describe and study the disease; (2) the term "Mediterranean fever" would appear to be equally inapplicable, since the disease does not prevail throughout the Mediterranean.

The Plague in China.

A French physician, Dr. Menier, who was in charge of the Chinese Medical School at Tien-Tsin, being asked by the Chinese Government to undertake the fight against plague at Fondziadian, devoted himself to the task with entire self-abnegation. The disease, however, attacked him on the first day, and in spite of all the efforts of the Russian physicians, he died two days later, without allowing them to take his temperature for fear of transmitting the disease. Dr. Mesnier, a deputy, is about to set out for Harbin to study the epidemic. Finally, Dr. Broquet, surgeon-major of the colonial troops, left Paris on Feb. 11th for the Far East. He is charged by the French Government with a double mission in the regions devastated by plague. He will first go to Tien-Tsin to institute all the sanitary measures possible for the safety of the French army of occupation, which numbers about a thousand at Tien-Tsin and at Peking. He will take with him 15,000 doses of the antiplague vaccine made by the Pasteur Institute, which has given excellent results in Indo-China. He will afterwards proceed to Manchuria to study the plague situation there.

The Medical Orchestra.

A few months ago there was established in Paris an association of physicians who are performers on various musical instruments. They form an orchestra of about 80 and meet several times a month for practice. Following on a first concert given last December, which was highly successful, they consented to give a second for the benefit of a medical foundation, the Maison du Médecin. The hall was too small to hold all the medical personages and the rest of the assembly that came to attend a function at once artistic and charitable. The concert consisted exclusively of pieces executed by doctors of medicine. The vocal part was rendered by a wife and a daughter of medical men, and the harp was played by a medical man's daughter who has already gained the first prize at the Conservatoire. Finally, Dr. Paul Mounet, an Associate of the Comédie Française, recited some beautiful verses by Dr. Montoya, while kinematographic pictures of the stomach and of frisky treponemata enlivened the interludes. The musical compositions of the President and Vice-President of the medical orchestra were warmly applauded.

Feb. 13th.

MEMORIAL TO THE LATE DR. J. M. RHODES.—It is not very often that a medical practitioner has his memory perpetuated by the building of a clock tower, but one erected as a memorial of the late Dr. John Milson Rhodes was unveiled at Didsbury about a fortnight ago. It stands in front of the railway station and bears an inscription, "A Friend of Humanity." He was known to the country at large as a pioneer of Poor-law reform, and his efforts in that direction extended over a period of 30 years. He did his work quietly, but with sound judgment and perfect mastery not only of the great principles but of the details of his subject. The Lord Mayor was invited to take over the memorial on behalf of the citizens of Manchester, and in the course of his remarks said that Dr. Rhodes would "be remembered ..... as the man who had brought about the reform of the workhouse dietary and the establishment of trained nursing service in the Poor-law" establishments. The sorrow at the death of Dr. Rhodes, which was felt in Didsbury, was widespread and genuine, for his sterling qualities had endeared him to the people.

Obituary.

ALFRED WILLIAM FREDERICK STREET, D.S.O.,

LIEUTENANT-COLONEL, I.M.S. (RETIRED).

THE news of the death, after only a few hours' illness, of Lieutenant-Colonel Street, D.S.O., will have come as a shock to a wide circle of friends both in India and in England. This event, which was due to cerebral hæmorrhage, occurring as it did without any premonition at the comparatively early age of 58, at his residence, Norsey Manor, Billericay, Essex, was wholly unexpected, as the deceased, a robust man, had always enjoyed good health. He had, in fact, been present in the hunting field on the Saturday preceding his death, which occurred on the morning of Monday, Jan. 30th.

Born in 1852, the eldest son of the late Rev. B. Street, vicar of Barnetby-le-Wold, Lincolnshire, Lieutenant-Colonel Street began his medical curriculum at St. George's Hospital in 1872. Here he succeeded in carrying off the Brackenbury prize of his year, and, qualifying in due course, he held for some little time a resident appointment at the Royal Free Hospital, Gray's Inn-road. Entering the Indian Medical Service in October, 1877, he served with distinction in the Afghan war of 1878–80, being present at the action of the Helmund on July 14th, 1880, the battle of Maiwand, defence of Kandahar, and the battle of Sept. 1st. For these he was mentioned in despatches and received the medal and clasp. In 1886–87 he took a very active part in the Burmese expedition, being again mentioned in despatches and receiving the Distinguished Service Order as well as the medal and clasp. The greater portion of his career in the Indian Medical Service was, however, passed in civil employ. In this he showed the same zeal and devotion to duty as was characteristic of him in his military work. From 1887 until his retirement with the rank of Lieutenant-Colonel in 1902, he held the position of Deputy Sanitary Commissioner under the Government of Bombay, in which he did very valuable service, both in the sanitary control of a very wide area and in the suppression of plague in Bombay itself.

Of a genial temperament, physically strong and active, a good horseman and fond of field sports, Lieutenant-Colonel Street made many friends. Modest and retiring, with a good deal of natural reserve, for he did not wear his heart on his sleeve, probably only those who knew him intimately really appreciated the depth and nobility of his character. A very high sense of duty actuated all his doings, and anything mean or petty was repugnant to him. The warmth of his affections, those who are privileged to speak knew well, as well as the strong undercurrent of religious belief which betrayed itself in his life.

Lieutenant-Colonel Street married in 1884 Helen, only daughter of the late Rev. E. M. Weigall, Vicar of Frodingham, Lincolnshire, for whom, as for his children (a son and three daughters), the greatest sympathy will be felt. The funeral took place at Barnetby, Lincolnshire, on Feb. 2nd, where the remains of the deceased were laid beside his father and mother near his old home. A memorial service held at the same hour at the parish church, Billericay, Essex, was largely attended, the fact testifying to the esteem with which he was regarded in the neighbourhood in which he had made his home for some years.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Sigmund Lustgarten of New York, who was formerly associated with Professor Kaposi, the eminent Vienna dermatologist. Dr. Lustgarten's name will be remembered in connexion with the supposed discovery of the bacillus of syphilis.—Dr. Alberto Severi, professor of forensic medicine in Genoa.—Dr. Kelsch, inspecting medical officer of the French army and member of the Paris Academy of Medicine.—Dr. Richard Stern, extraordinary professor of medicine and director of the Medical Department of the Polyclinic in Breslau. He refused the chair of medicine in the University of Greifswald. His chief work was "The Traumatic Origin of Internal Diseases." His death was due to influenza. He was 45 years of age.—Dr. Carl Parrot, an eminent Munich gynæcologist. He was a great authority on birds and was president of the Bavarian

Ornithological Society.—Dr. F. Fuchs, formerly extraordinary professor of electrotherapy in the University of Bonn.—Dr. Claude Martin of Lyons, corresponding member of the Paris Academy of Medicine.

Medical News.

ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At a meeting of the Comitia of the Royal College of Physicians of London on Jan. 26th, and of the Council of the Royal College of Surgeons of England on Feb. 9th, diplomas of L.R.C.P. and M.R.C.S. were conferred respectively on the following candidates (including one lady, Miss Pearl Jane Sproule, M.B., of Toronto University) who have passed the Final Examination in Medicine, Surgery, and Midwifery, of the Conjoint Examining Board in England, and have conformed to the bye-laws:—

Joseph Bamforth, Liverpool University; Albert Malcolm Barlow, London Hospital; Henry Cuthbert Bazett, B.A. Oxon., Oxford University and St. Thomas's Hospital; Thomas Beaton, University College, Cardiff, and Charing Cross Hospital; James Jamison Black, M.B., B.S. Melb., Melbourne University and Middlesex Hospital; William Percy Bonner, London Hospital; Thomas Rufus Bowen, University College, Cardiff, and London Hospital; George Francis Bradley, London Hospital; Thomas Wafer Byrne, Liverpool University; Wilfrid Thomas Charing-Pearce, B.A. Cantab., Cambridge University and Guy's Hospital; Thomas Cock, Charing Cross Hospital; William Lewis Cowardin, St. Mary's Hospital; Heerajee Jehangir Manockjee Cursetjee, L.M.S. Bombay, Bombay and Cambridge Universities and London Hospital; Guy de Hoghton Dawson, Middlesex Hospital; Harold Dearden, B.A. Cantab., Cambridge and Manchester Universities and London Hospital; John Evan Dewar, M.D., C.M. McGill, McGill University, Middlesex Hospital, and Edinburgh; William James Edgar, St. Thomas's Hospital; Cyril Douglas Faulkner, St. Mary's Hospital; Hugo Flecker, M.B., Ch.M. Sydney, Sydney University and King's College Hospital; Arthur Duncan Gardner, B.A. Oxon., Oxford University and St. Thomas's Hospital; Alan Cecil Gemmell, M.A., LL.B. Cantab., Cambridge University and St. Thomas's Hospital; Leopold Sylvester Morrice Habich, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Alan Ashton Henderson, University College Hospital; Thomas Brooke Hickley, Westminster Hospital; Guy Reginald Hind, Guy's Hospital; Gwilym James, B.A. Cantab., Cambridge University and University College Hospital; Heber Carss Jamieson, M.B. Toronto, Toronto University and London Hospital; Arthur Carveth Johnson, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Thomas William James Johnson, M.B., Ch.B. Otago, Otago University and Middlesex Hospital; Robert Francis Jones, St. George's Hospital; George Arthur Edward Kelman, King's College and Westminster Hospital; Randal Young Kenny, M.B. Toronto, Toronto University, St. George's and St. Bartholomew's Hospitals; Charles Gordon Kirkpatrick, M.B. Toronto, Toronto University and Middlesex Hospital; William Balfour Laird, St. Thomas's Hospital; Harold Victor Lamb, Leeds University and Middlesex Hospital; Harold Drew Lander, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Peregrine Stephen Brackenbury Langton, Middlesex Hospital; Alexander Carson Clarke Lawrence, B.A. Cantab., Cambridge University and Middlesex Hospital; Basil Hugh Campbell Lea-Wilson, Cambridge University and St. Bartholomew's Hospital; Lewis Francis Gurslave Lewis, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; John Rhodes Liddell, Sheffield University; Samuel Marle, Bristol University; Octavius de Burgh Marsh, B.A. Cantab., Cambridge University and London Hospital; Ernest Percy Martin, St. Thomas's Hospital; Kalka Prasad Mathur, Punjab University and London Hospital; James William Edwin Mendis, L.M.S. Ceylon, Ceylon Medical College and Middlesex Hospital; John Morley, M.B., Ch.B. Manch., Manchester University; Michael Wellwood Morrison, Bristol University, Middlesex, St. Thomas's, and University College Hospitals; Nathan Mutch, B.A., B.C. Cantab., Cambridge University and Guy's Hospital; Alfred Philip Nicolle, London Hospital; Henry Locke Paddon, B.A. Oxon., Oxford University and St. Thomas's Hospital; Krishnan Gopinath Pandalai, M.B., M.S. Madras, Madras University and Middlesex Hospital; Hubert Charles George Pedler, University College Hospital; Cassius Affeleck Pereira, L.M.S. Ceylon, Ceylon Medical College and London Hospital; Albert Pfeiffer, L.D.S. Eng., Middlesex Hospital; Dudley Denham Pinnock, M.B., B.S. Melb., Melbourne University and Middlesex Hospital; James Powell, University College, Cardiff, and St. Mary's Hospital; Edward Prall, St. Thomas's Hospital; Thillustanum Sesha Soundara Rajan, Madras University and Middlesex Hospital; Henry Martin Rashbrook, London Hospital; William Alfred Reynolds, Bristol University; William Scarisbrick, B.Sc. Lond., Liverpool University; David Scurlock, St. Mary's Hospital; Francis Robert Bradley Skrimshire, St. Thomas's Hospital; Vere Edward Somerset, King's College Hospital; Pearl Jane Sproule (Miss), M.B. Toronto, Toronto University and Royal Free Hospital; Gerald Nicholson Stathers, Cambridge University and St. Bartholomew's Hospital; Berthold Somerville Taylor, M.A. Cantab., Cambridge University and St. George's Hospital; David Chester Thompson, M.D. Manitoba, Manitoba University and Middlesex Hospital; Alan Herapath Todd, B.Sc. Lond., Guy's Hospital; Stanley Van Someren Boyd, London Hospital; John Ernest Price Watts, Westminster Hospital; Frank Wells, St. Mary's Hospital; Esmond Tetley Willans, Cambridge and Leeds Universities; and Reginald Joseph Wooster, St. Mary's Hospital.

Diplomas in Public Health were conferred upon the following candidates (including two ladies, Miss C. A. King and Miss M. Thomson):—

Scott Campbell Adam, M.B., Ch.B. Glasg., Glasgow and Durham Universities; Claude John Eddowes Bennett, L.R.C.P., M.R.C.S., Westminster Hospital and King's College; Harold Boulton (Major I.M.S.), M.B., B.C. Cantab., L.R.C.P., M.R.C.S., Cambridge University, St. Bartholomew's Hospital, and Royal Army Medical College; Herbert Maughan Brown, M.D., Ch.B. Edin., Edinburgh University and Royal Institute of Public Health; Percy Norman Cave, M.B., B.Ch. Oxon., Oxford University, St. George's and St. Mary's Hospitals; Roderic Arthur Clapham, M.D., B.C. Cantab., L.R.C.P., M.R.C.S., Cambridge University and London Hospital; Alexander Dawson (Captain R.A.M.C.), M.B., Ch.B. Aberd., Aberdeen University and Royal Army Medical College; Kali Charan Dube, L.M.S. Punjab, Punjab University and University College; John Henry Jones, L.R.C.P., M.R.C.S., Guy's, Haslar, and King's College Hospitals; Charlotte Alice King (Miss), M.B., B.S. Lond., Royal Free and Middlesex Hospitals; James Fitzgerald Martin (Captain R.A.M.C.), M.B., Ch.B. Edin., Edinburgh University and Royal Army Medical College; Lawrence Pick, L.R.C.P., M.R.C.S., St. George's Hospital and Royal Institute of Public Health; Arthur Meurig Pryce, M.B., Ch.B. Edin., Edinburgh University and University College; Thomas Edwin Pryce, M.D., B.S. Lond., University College; Norman Emil Henry Scott (Captain I.M.S.), M.B., Ch.B. Glasg., Glasgow University and University College; Sidney Francis St. Germain Steadman, L.R.C.P., M.R.C.S., Charing Cross Hospital and University College; Sidney John Steward, M.D., B.C. Cantab., L.R.C.P., M.R.C.S., Cambridge University, St. Thomas's Hospital, and University College; Charles Henry Straton (Captain R.A.M.C.), L.R.C.P., M.R.C.S., St. Mary's Hospital and Royal Army Medical College; May Thomson (Miss), L.R.C.P. & S. Edin., L.F.P. & S. Glasg., Edinburgh School of Medicine for Women; Sydney Arthur Tucker, M.B., B.S. Lond., L.R.C.P., M.R.C.S., St. Bartholomew's Hospital and University College; and Charles Wilfred Vining, M.B., B.S. Lond., St. Mary's and St. George's Hospitals.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The Council on Feb. 9th conferred the following diplomas upon the undermentioned gentlemen, who have now complied with the by-laws:—

F.R.C.S.—Charles Henry Shorney Webb., M.B., B.S. Lond., M.R.C.S. L.R.C.P., Middlesex Hospital.

L.D.S.—Herbert Ferris Barge, Guy's Hospital; George Frederick Fawn, Bristol University; and Gordon Johnson, Charing Cross and Royal Dental Hospitals.

APOTHECARIES' HALL OF IRELAND.—At the Final Examination held recently the following candidates were successful:—

Midwifery.—J. L. Bocarrow, L. N. Denslow, H. Hutchinson, F. Muller-Fonseca, and Mrs. M. Neary.

Medicine.—Miss M. L. Batho, J. L. Bocarrow, Miss A. M. Headwards, and J. B. O'Donoghue.

Surgery.—Miss M. L. Batho, J. L. Bocarrow, Miss G. Ghosh, Miss A. M. Headwards, H. Hutchinson, G. M. Mayberry, and F. Muller-Fonseca.

Completed Examination.—Miss M. L. Batho, J. L. Bocarrow, Miss G. Ghosh, Miss A. M. Headwards, G. M. Mayberry, and F. Muller-Fonseca.

ST. MARK'S HOSPITAL FOR CANCER, FISTULA, AND OTHER DISEASES OF THE RECTUM, CITY-ROAD, E.C.—The Lord Mayor presided at this hospital on Feb. 9th at the annual general meeting of the governors. The report submitted and adopted referred to the provision during the past year of 11 new bedrooms for the accommodation of the nursing staff, and also to other alterations, including the erection of an outside fire-escape staircase. The income for the year had been £4642 and the expenditure £6972. There was therefore a very considerable need for an increase of contributions. King Edward's Fund had given £100 towards the ordinary work and £400 towards the structural alterations. It was felt that this was quite inadequate in view of the amount and value of the work done.

THE AFTER-CARE ASSOCIATION FOR THE RECOVERED INSANE.—The annual meeting of the After-Care Association for poor persons discharged recovered from asylums for the insane was held on Feb. 8th by the kind permission of Sir Victor and Lady Horsley, at 25, Cavendish-square, W., Mr. H. D. Greene, K.C., presiding over a large audience. The report, read by Mr. Roxby, stated that applications were received during 1910 on behalf of 379 cases, and the total income amounted to £1199 12*s.* 6*d.* The adoption of the report was moved by the Bishop of Barking, seconded by Dr. G. H. Savage, supported by the Master of the Temple and Dr. Robert Jones (Claybury Asylum). The re-election of vice-presidents, council, &c., was proposed by the Rev. H. R. Gamble, vicar of Holy Trinity, Chelsea, seconded by Dr. C. H. Bond (Long Grove Asylum) and supported by Dr. W. H. B. Stoddart (Bethlem Royal Hospital).

A vote of thanks to Sir Victor and Lady Horsley and to the chairman, proposed by Admiral de Courcy Hamilton and seconded by Dr. R. Percy Smith, to which the chairman suitably responded, terminated a most successful meeting.

ROYAL INSTITUTION OF GREAT BRITAIN.—The Friday evening discourse of Feb. 24th will be delivered by Professor Jean Perrin, at 9 o'clock at Albemarle-street, Piccadilly, W. The subject is Mouvement Brownien et Réalité Moléculaire (in French). On Tuesday, Feb. 21st, at 3 P.M., Dr. F. W. Mott, F.R.S., will deliver his sixth lecture on Heredity.

SURGICAL CONGRESS (BRUSSELS).—The Third Congress of the International Society of Surgery will take place at Brussels from Sept. 26th to 30th. The sessions of the society will be public, but only actual members will be able to take part in the discussions. Three main subjects will be considered—viz., Pleuro-pulmonary Surgery, reported by MM. Garré (Bonn), Gaudier (Lille), Girard (Geneva), Lenormand (Paris), Ferguson (Chicago), Van Stockum (Rotterdam), Sauerbruch (Marburg), Friedrich (Marburg); Colitis, reported by MM. Sonnenburg (Berlin), Segond (Paris), Gibson (New York), D'Arcy Power (London); Pancreatitis, reported by MM. Michel (Nancy), Korte (Berlin), Giordano (Venice). Full particulars may be obtained by addressing the Secretary-General of the Congress, M. le Professeur Depage, 75, Avenue Louise, Brussels.

DEATH OF MR. GERALD GEORGE HODGSON.—Deep regret was expressed at Brighton early in this month at the news of the death of Mr. Gerald George Hodgson, who, until a few years ago, was a well-known practitioner there. Latterly he had resided at Reigate, but did not have good health. He had been troubled with insomnia, and with the object of inducing sleep tired himself by taking a long walk to Hillingdon in Middlesex. Here he put up at a hotel and requested that he should not be called early. Next morning he was found dead, having succumbed to an overdose of morphine. At the inquest a verdict was returned that Mr. Hodgson died by misadventure. On the evening that Mr. Hodgson died his sister received a letter from him saying he was starting for Devonshire to recruit his health. Mr. Hodgson received his medical training at King's College Hospital and took the M.R.C.S. Eng. and L.S.A. diplomas in 1884.

THIRD INTERNATIONAL LARYNGO-RHINOLOGICAL CONGRESS, BERLIN.—This congress is announced to take place in Berlin from August 30th to Sept. 2nd under the presidency of Herr Geheimrat B. Fränkel. The following are the chief subjects for consideration: (1) The Relations of Experimental Phonetics to Laryngology, reported by Herr Gutzmann of Berlin and Herr Struyken of Breda; (2) Bronchoscopy and Œsophagoscopy, their Indications and Contra-indications, reported by Herr Killian of Freiburg, Herr Kahler of Vienna, and Dr. Jackson of Pittsburg; (3) The Lymphatic System of the Nose and of the Naso-pharynx, reported by Herr Broeckaert of Ghent, Sig. Poli of Genoa, and Mr. Logan Turner of Edinburgh; (4) The So-called Fibrous Naso-pharyngeal Polypus, reported by M. Jacques of Nancy and M. Hellat of St. Petersburg. Further particulars may be obtained from the secretary of the congress, Herr Professor Rosenberg, Schiffbauerdamm, 26, Berlin, N.W.

COLONIAL MEDICAL SERVICES.—*West African Medical Staff:* Mr. R. Cope, M.R.C.S. Eng., M.R.C.P. Lond., D.T.M. Liverp., medical officer, Gold Coast, has resigned his appointment; and Mr. E. J. Kelleher, L.R.C.S., L.R.C.P. Edin., L.F.P.S. Glasg., medical officer, Southern Nigeria, has retired temporarily on pension. The following gentlemen have been selected for appointment to the staff: Mr. A. J. Smith, M.B., Ch.B. Birm., Mr. W. G. Watt, M.B., Ch.B. Aberd., Mr. J. Donnelly, M.B., B.Ch. R.U.I., Mr. H. F. Hamilton, M.B., Ch.B. Edin., D.T.M. Liverp., Mr. P. D. Oakley, M.R.C.S. Eng., L.R.C.P. Lond., D.T.M. Liverp., and Mr. W. A. Ryan, L.R.C.P., L.R.C.S. (Gold Coast); Mr. G. Rollason, L.M.S.S.A. Lond. (Sierra Leone); Mr. E. L. Sieger, M.B., Ch.B. Glasg., D.T.M. Liverp., Mr. A. Hipwell, L.R.C.S., L.R.C.P. Irel., D.P.H. Liverp., D.T.M. Liverp.; and Mr. L. H. Booth, M.R.C.S. Eng., L.R.C.P. Lond. (Southern Nigeria). *Other Colonies and Protectorates:* Mr. F. L. Boag, M.B., Ch.B. Vict., has been selected for appointment as medical officer in the Gilbert and Ellice Islands Protectorate, and Mr. G. C. M. Davies, L.S.A. Lond., L.R.C.P. Edin., has been selected for appointment as a medical officer in the British Solomon Islands Protectorate.

LONDON COUNTY COUNCIL.—The London County Council has decided to extend the period of compulsory notification of cerebro-spinal meningitis for a further period of 12 months from March 13th, 1911. The first notification order came into force on March 12th, 1907. The Public Health Committee stated that considerable attention had been given to this disease in recent years in the principal cities of Europe and America, and it was important that in London the continuity of statistical information should be preserved.

PRESENTATIONS TO MEDICAL MEN.—Mr. Augustus William Dalby, L.R.C.P., L.R.C.S. Edin., of Frome, Somerset, has been presented with a cheque for £300 by the inhabitants of that town as a mark of respect and esteem, on the occasion of his leaving the district through ill-health.—On Feb. 4th at Winsford Mr. George Francis Sydenham, M.R.C.S. Eng., L.S.A., was presented with a cheque for £120 towards the cost of the purchase of a motor-car, together with an illuminated address. The presentation was given in commemoration of Mr. Sydenham's fiftieth birthday, and of his 25 years' service as medical officer for the first district and workhouse of the Dulverton (Somerset) Union.

SCHOOL CHILDREN'S HEALTH.—In his annual report Dr. J. W. Talent, the medical officer to the Ashton-under-Lyne education committee, gives some interesting information respecting the health of the elementary school children. During the year 2990 children were examined, of whom 592 suffered from various defects. At five years of age 40 per cent. had perfectly sound teeth, but there was a grievous falling off in the next few years, for at the age of 12 only 6 per cent. of the children had sound teeth. No doubt the quality of the food they are brought up on is one of the chief causes of this serious defect. Then, too, as to height and weight, these children of our factory system were found decidedly below normal. It should be noted, moreover, that this state of things existed, although nearly 60,000 free meals were provided at the school canteen for 800 children, at an average cost of 1·62 of a penny.

BOOKS, ETC., RECEIVED.

LEWIS, H. K., London.
The Practitioner's Medical Dictionary. Based on Recent Medical Literature. By George M. Gould, A.M., M.D. Second edition. Illustrated. 1911. Price 18s. net.

SCHMATOLLA, OTTO, Xantenerstrasse, 9, Berlin-Wilmersdorf.
Um Wahrheit und Recht. I. Serie. Schattenbilder aus der Arzneimittel-Industrie. Von Otto Schmatolla, Apotheker. Price not stated.

SPRINGER, JULIUS, Berlin.
Die Therapie der Syphilis. Ihre Entwicklung und ihr gegenwärtiger Stand. Von Dr. Paul Mulzer in Berlin. Mit einem Vorwort von Geh. Reg.-Rat Prof. Dr. P. Uhlenhuth. Price, paper, M.2.80; bound, M.3.60.

STAUDE, ELWIN (Inh. ERICH STAUDE), Steglitzerstrasse, 11, Berlin. W. 35.
Annalen für das gesamte Hebammenwesen des In- und Auslandes, Band I. Heft 4. Jahrgang, 1910. Preis für den Jahresband (4 Hefte), M.10.

STEINKOPFF, THEODOR, Verlag von, Dresden.
Hereditäre Syphilis, deren Prophylaxe und Therapie. Von Professor Alfred Fournier, Mitglied der Académie de Médecine (Paris). Autorisierte Deutsche Übersetzung. Von Dr. Med. Edgar Neumann (Wien). Mit. 18 Abbildungen und einem Nachwort über Ehrlich-Hata, 606. Price M.2.50.

SWAN SONNENSCHEIN AND CO., LIMITED, London.
The Ethical Library. Darwin and the Humanities. By James Mark Baldwin, D.Sc., LL.D. Second edition. Price 3s.

SWEDENBORG SOCIETY, 1, Bloomsbury-street, London.
Transactions of the International Swedenborg Congress held in Connection with the Celebration of the Swedenborg Society's Centenary, London, July 4th to 8th, 1910. Price not stated.

WRIGHT, JOHN, AND SONS, LIMITED, Bristol. SIMPKIN, MARSHALL, HAMILTON, KENT, AND CO., LIMITED, London.
Golden Rules of Ophthalmic Practice. By Gustavus Hartridge, F.R.C.S. Fifth Edition. Price 1s.
Golden Rules for Diseases of Infants and Children. By George Carpenter, M.D. Fourth edition. Revised and partly rewritten by E. Bellingham Smith, M.D., B.S. Price 1s.

PRINT IN

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The New Parliament.

THE new Parliament assembled on Jan. 31st, but certain time-honoured formalities had to be transacted before it could proceed with the business of the session. The Speaker had to be elected by the House of Commons and the oath had to be administered to Members. Then came the gracious speech from the Throne outlining the principal measures which the Government intends to submit to Parliament during the session. The motion for an address in reply to His Majesty's speech has afforded to the House of Commons the usual opportunity to pass in review the policy of the Cabinet. For these matters three weeks of Parliamentary time have been required. All the indications point to a session in large part devoted to the discussion of the controversial issues which have agitated recently the political life of the country. The Government will take for its business the time usually allotted to private members up to Easter. This will preclude the advancement in the early period of the session of all Bills not introduced by Ministers. Another effect of the Parliamentary situation may be to delay the introduction of departmental measures which have been expected for a long time. If any of them are introduced it is unlikely that reasonably rapid progress will be made with them.

Departmental Reports.

During the first few days of the session several reports of a departmental or statutory character have been presented to Parliament. The report on the work of the Central Midwives Board for the year ended March 31st, 1910, has been laid on the table of the House of Lords. A copy of the seventy-second Annual Report of the Registrar-General of Births, Deaths, and Marriages in England and Wales has been presented to the House of Commons. The ordinances of the Universities of Edinburgh and Glasgow in regard to the regulations for degrees in medicine have also been laid in compliance with statute. The Order made by the Local Government Board for Ireland agreeing to the institution of the office of dental surgeon to the workhouse of the Belfast Union has been notified in a similar manner.

Asylum Officers (Employment, Pensions and Superannuation) Bill.

A Bill "to limit the hours of employment of officers and servants in asylums, and to amend the Asylum Officers' Superannuation Act," has been introduced into the House of Commons by Viscount WOLMER and read a first time. In bringing it forward he has the support of Mr. SWIFT, Mr. KESWICK, Mr. POLLOCK, and Major STANLEY.

HOUSE OF COMMONS.

WEDNESDAY, FEB. 8TH.

The Use of Ehrlich's Preparation in the Army.

Mr. GOLDMAN asked the Secretary of State for War whether the attention of the War Office had been drawn to the cures effected by the use of Professor Ehrlich's preparation "606"; and whether any steps had been taken to employ this preparation in suitable cases in the British army at home and abroad.—Mr. HALDANE forwarded the following written answer: Yes, sir. If the hon. Member will kindly refer to the *Journal of the Army Medical Corps* for November, 1910, and February, 1911, he will find accounts of cases in which the remedy has been tried.

THURSDAY, FEB. 9TH.

The Irish Poor Law.

Mr. LONSDALE asked the Chief Secretary to the Lord Lieutenant for Ireland when he intended to introduce his promised measure for the reform of the Irish Poor-law.—Mr. BIRRELL replied: I am afraid there is no chance of my introducing any such measure this session.

Irish Butter Legislation.

Mr. H. BARRIE asked the Chief Secretary to the Lord Lieutenant for Ireland when it was proposed to introduce the Butter Bill promoted by the Agricultural and Technical Department.—Mr. BIRRELL said in reply: I am afraid that there will be no room for a Butter Bill in this session.

Irish Medical Practitioners and the Motor Spirit Duty.

Mr. GINNELL asked the Secretary to the Treasury why the rebate of motor spirit duty to which medical practitioners were entitled under the Finance (1909-10) Act, 1910, had not yet been paid in Ireland in respect of 1909 or 1910 in cases in which the claim had been duly made, accompanied by vouchers; whether to entitle them to the rebate medical practitioners were required to prove that manufacturer and dealer had also paid the duty, and furnished with power to obtain this information; and when would the rebate due in respect of the last two years be paid to those gentlemen.—Mr. HOBHOUSE replied: If the honourable gentleman will furnish the Commissioners of Customs and Excise with the names and addresses of any medical practitioners in Ireland who have claimed but have not been paid the rebate inquiry will be made into the circumstances in each instance. Medical practitioners and other claimants for rebate are not required to prove that manufacturers of and dealers in motor spirit have paid the duty. The inquiries as to the validity of the vouchers or certificates attached to the claims are made by officers of Customs and Excise.

MONDAY, FEB. 13TH.

The Plague and Chinese Pork.

Mr. FELL asked the President of the Local Government Board whether during the continuance of the virulent plague in China he would totally prohibit the introduction of Chinese pork into this country, having regard to the reports of the disposal of the dead bodies there and the reported habits of the Chinese pigs.—Mr. BURNS replied: The districts in China which are affected with plague are remote from the districts from which pigs have been imported to this country. No circumstances have arisen necessitating the taking of other measures than those of adequate inspection of imported meat, and this is in operation.

Imports of Chinese Pork.

Mr. FELL asked the President of the Local Government Board whether the shipments of Chinese pork were increasing to this country; whether over 24,000 carcasses arrived at Liverpool from China last year; whether every one of these carcasses was examined; and how many were passed as free from disease and how many were rejected.—Mr. BURNS answered: Fewer carcasses were imported during 1909 than during 1910, but, as the importations of Chinese pork did not commence until July of the former year, I should hesitate to say whether the shipments are increasing. I understand that 23,246 carcasses were received at Liverpool during last year, and that the whole of these were examined. Of this number 343 were condemned on account of unsoundness which developed in transit and 352 on account of disease or abnormal condition.

The Poisons and Pharmacy Act.

Captain CRAIG asked the Secretary of State for the Home Department whether by-laws had yet been made by the Pharmaceutical Society under the Poisons and Pharmacy Act, 1908, Section 4 (b).—Mr. CHURCHILL replied: I am informed that before formulating any by-laws under Section 4 (b) of the Poisons and Pharmacy Act, 1908, the Pharmaceutical Society of Great Britain has to dispose of certain preliminary questions connected with the educational curriculum of pharmaceutical chemists and of chemists and druggists, and that the society is now actively engaged on these questions.

European Medical Men in the Plague Area.

Mr. ALLAN BAKER asked the Under-Secretary of State for Foreign Affairs whether he could say what precautions were being taken by the Chinese Government to ensure the safety of European medical men working in the plague district of Harbin.—Mr. MCKINNON WOOD wrote in reply: His Majesty's Minister at Pekin reports that all the medical men have been inoculated with Haffkine's vaccine. They are comfortably installed in a railway car, with the exception of one who is living with the British Consul. The Chinese Government has done its utmost for the personal comfort of the medical men, whose private letters show appreciation of their considerate treatment. They wear masks, oilskin boots, and complete overalls when dealing with cases of plague. The French doctor, Mesny, who was not inoculated, became infected owing to a patient coughing in his face while examining him unmasked. Dr. Jackson, the British medical man, died after continuous hard work among a crowd of infected coolies. It is believed that he was too exhausted to maintain proper precautions. The heroism of the doctors, Sir John Jordan reports, is beyond praise.

The Medical Inspection of School Children.

In the course of the debate on the Address when an amendment having reference to the burdens on local rates was under discussion,

Mr. RUNCIMAN (President of the Board of Education) said: I come to the purely administrative case in which the Government is charged with having been unjust to the Local Government ratepayers. As to the Act passed for the feeding of school children, I think it will be agreed, except by a very small majority, that it has not imposed a very heavy burden. The Act providing for the medical inspection of school children has no doubt involved London in a very large expenditure. We have been overhauling the method by which the London County Council has provided for the medical inspection of school children, and we could not pronounce it efficient. When an honourable Member refers to this medical treatment and suggests that we have tried to convert what is an optional into a compulsory measure, I reply that we have done nothing of the kind. We have made it perfectly clear that the Act is optional and that we are only carrying out our statutory duty to see that the arrangements which are made are sanctioned by the Board of Education. We cannot sanction schemes of medical treatment which are not efficient and do not cover the ground, but in many cases leave the whole question of the medical inspection of school children in a worse position for the future than it has been in the past.

TUESDAY, FEB. 14TH.

The Adulteration of Bread.

Mr. BOTTOMLEY asked the President of the Local Government Board whether his attention had been called to the adulteration of bread by means of the treatment of flour with acid phosphate of calcium, derived from the action of sulphuric acid on bones; and, if so, whether he would consider the desirableness of taking measures to stop the practice.—Mr. BURNS replied: My attention has been called to this matter and some time ago I directed an inquiry to be made regarding it. The report on this inquiry is now in preparation.

Mr. GOLDMAN asked whether in the light of the recent agitation for a standard in bread he proposed any legislative standards for bread and other foodstuffs.—Mr. BURNS said in reply: The question of the comparative nutritive values of bread made from various classes of flour is now being investigated by the Foods Department of the Local Government Board; and at present I am not prepared to express an opinion on the question of standards.

Rats and the Plague.

Captain CLAY asked the President of the Local Government Board whether the Government was prepared to introduce legislation authorising local authorities to take such measures as might be necessary within their area for the destruction of rats in order to minimise the danger of an epidemic of plague.—Mr. BURNS answered: In November of last year I issued an Order directing the local authority of any district in which rats were infected or threatened with plague, or in which there was an unusual mortality among rats, to take measures for the destruction of rats and for preventing their entrance into buildings. Further legislation for this purpose does not at present appear to be required.

Milk Legislation.

Mr. GOLDMAN asked the President of the Local Government Board whether the Government proposed to introduce the Dairies Bill this session as a first-class measure.—Mr. BURNS replied: I am not at present in a position to make any announcement on this subject.

WEDNESDAY, FEB. 15TH.

The Ingredients of Patent Medicines.

Mr. STEPHEN COLLINS asked the Secretary of State for the Home Department whether he was prepared to give effect to the view

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favoured by his predecessor at the Home Office and appoint a Select Committee to consider the advisability of issuing regulations making it compulsory upon all manufacturers of medicines liable to patent medicine duty to print on the label of the bottle or other vessel in which such was sold the full ingredients of such bottles or vessels, as well as the diseases which they purported to cure.—Mr. CHURCHILL wrote in reply: I am making inquiries and will inform my honourable friend in due course.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.

AWDRY, ARTHUR JOHN, L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Medical Officer to the Berkeley (Gloucestershire) Hospital.

AWDRY, WALTER ROBERT, M.B. Durh., M.R.C.S., has been appointed Honorary Medical Officer to the Berkeley (Gloucestershire) Hospital.

BANKS, J., M.B., M.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Dunoon District of the county of Argyll.

BRODRICK, CHARLES CUMBERLAND, L.R.C.P., L.R.C.S., L.M. Edin., has been appointed Medical Officer for the Whitchurch and South Lydford District of the Tavistock (Devon) Board of Guardians.

BURNET, ROBERT, M.Sc., M.B., B.Ch. Vict., M.Sc., M.B., B.Ch. Liverp., D.P.H. Birm., has been appointed Medical Officer of Health for the County of Cornwall.

BYWATER, B. F. W., M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer of Health for Withington, Manchester.

COOPER, CHARLES EDWARD, M.B., B.C. Cantab., has been appointed Medical Officer of Health for the Ivybridge (Devon) Urban District Council.

DOWSETT, ERNEST B., M.R.C.S., L.R.C.P. Lond., L.D.S., has been appointed Assistant Dental Surgeon to Guy's Hospital.

GARMAN, W. C., M.B., M.S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Wednesbury District of the county of Stafford.

HALL, I. WALKER, M.D. Vict., Professor of Pathology in the University of Bristol, has been appointed External Examiner in that subject at the University of Manchester.

MOISER, L. H., M.B. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Crediton District of the county of Devon.

PATTISON, C. R. M., L.R.C.P. & S. Irel., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Ballyward District of the county of Down.

PEARCE, FRANK J., L.D.S. R.C.S., has been appointed Assistant Dental Surgeon to Guy's Hospital.

RUTHERFOORD, H. E., M.D., B.Ch. Dub., has been appointed Honorary Assistant Physician to the Chester General Infirmary.

WATSON, ANNE M., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer to the Morningfield Hospital, Aberdeen.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ASHTON-UNDER-LYNE UNION WORKHOUSE.—Assistant Medical Officer. Salary £150 per annum, with rations, laundry, and residence.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES.—Clinical Assistant for three months. Salary at rate of 52 guinea per annum.

BOLTON INFIRMARY AND DISPENSARY.—Third House Surgeon. Salary £90 per annum, with apartments, board, and attendance.

BOOTLE BOROUGH HOSPITAL.—Junior House Surgeon. Salary £80 per annum, with residence, board, and laundry.

BRISTOL, UNIVERSITY OF.—Demonstrator of Physiology. Salary £180 per annum.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Clinical Assistant for three months.

CLAPHAM MATERNITY HOSPITAL, Jeffreys-road.—Two House Surgeons (females) for six months.

CROYDON, COUNTY BOROUGH OF.—Assistant Medical Officer. Salary £250 per annum.

DUMFRIES, COUNTY AND BURGHS OF.—Medical Assistant to Medical Officer of Health and School Medical Officer. Salary £250 per annum.

EDINBURGH ROYAL INFIRMARY.—Superintendent. Salary £600 per annum, with house, coal, and light.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road, London, S.E.—House Physician for six months. Salary at rate of £80 per annum, with board, residence, and washing.

FARRINGDON GENERAL DISPENSARY AND LYING-IN CHARITY, 17, Bartlett's Buildings, Holborn-circus, E.C.—Resident Medical Officer. Salary £100 per annum, with rooms, attendance, fire, &c. Also Honorary Dental Surgeon.

GATESHEAD UNION WORKHOUSE.—Resident Medical Officer. Salary £250 per annum, with apartments, rations, and washing.

GLOUCESTER COUNTY ASYLUMS, Wotton, Gloucester.—Junior Assistant Medical Officer, unmarried. Salary £150 per annum, with apartments, board, washing, &c.

GREAT YARMOUTH HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITALS.—Surgeon to Out-patients.

HORNSEY, BOROUGH OF.—Assistant Medical Officer of Health, Assistant to Medical Superintendent of Borough Isolation Hospital, and Assistant School Medical Officer, unmarried. Salary £225 a year, with rooms and board.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.—Anæsthetist. Salary £15 15s. per annum.

KENSINGTON DISPENSARY AND CHILDREN'S HOSPITAL.—Vacancy on Honorary Medical Staff.

LEAMINGTON, WARNEFORD, LEAMINGTON, AND SOUTH WARWICKSHIRE GENERAL HOSPITAL.—Junior Resident Medical Officer. Salary £65 per annum, with board, washing, and apartments.

LIVERPOOL, DAVID LEWIS NORTHERN HOSPITAL.—Three House Surgeons for six months. Salaries at rate of £60 per annum, with residence and maintenance.

LIVERPOOL, ROYAL SOUTHERN HOSPITAL.—Three House Surgeons and Two House Physicians for six months. Salary at rate of £60 per annum, with board and residence.

LLANYBYTHER, CARMARTHENSHIRE, WEST WALES SANATORIUM.—Medical Superintendent. Salary £250 per annum, with board and residence.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury, near Manchester.—Resident Medical Officer, unmarried. Salary £90 per annum.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST, Hardman-street.—Assistant Medical Officer and Pathologist. Salary £80 per annum.

MANCHESTER ROYAL INFIRMARY.—House Physicians and House Surgeons, unmarried, for six months. Board and residence provided.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—House Physician and Two House Surgeons. Salaries at rate of £80 per annum. Also Assistant House Physician, and Two Assistant House Surgeons. Salaries at rate of £40 per annum. Board and washing in each case. All for six months.

NEWCASTLE-UPON-TYNE, UNIVERSITY OF DURHAM COLLEGE OF MEDICINE.—Lecturer on Public Health.

NEW HOSPITAL FOR WOMEN, Euston-road.—Senior Assistant (female) in Out-patient Department.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—House Surgeon. Salary £60 per annum, with board, residence, and laundry.

NOTTINGHAM WORKHOUSE INFIRMARY.—Assistant Resident Medical Officer, unmarried. Salary £130 per annum, with apartments, board, washing, and attendance.

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—Honorary Anæsthetist.

RANSOM SANATORIUM FOR CONSUMPTIVES, Sherwood Forest, near Mansfield, Notts.—Resident Medical Officer (female). Salary £100 per annum, with board, residence, and washing.

ROYAL NAVAL MEDICAL SERVICE.—Twelve Commissions.

ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House Surgeon. Salary £100 per annum, with rooms, board, and washing.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, Paddington, W.—Lecturer on Anatomy. Salary at rate of £350 per annum.

ST. PANCRAS AND NORTHERN DISPENSARY, 126, Euston-road.—Resident Medical Officer, unmarried. Salary £105 per annum, with residence, attendance, and midwifery fees.

ST. PETER'S HOSPITAL FOR STONE, &c., Henrietta-street, Covent Garden, W.C.—Junior House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Junior House Surgeon. Salary £80 per annum, with board, residence, &c.

SHREWSBURY, SALOP INFIRMARY.—House Physician. Salary at rate of £70 per annum, with board and apartments.

SOUTHPORT INFIRMARY.—Resident Junior House and Visiting Surgeon, unmarried, for six months. Salary £70 per annum, with residence, board, and washing.

STOCKPORT INFIRMARY.—Junior House Surgeon. Salary £80 per annum, with board, washing, and residence.

SUNDERLAND INFIRMARY.—Two House Surgeons. Salary £80 per annum, with board, residence, and washing.

TOWER HAMLETS DISPENSARY, Whitehorse-street, Stepney, E.—Resident Medical Officer. Salary £100 per annum, with apartments, washing, light, and attendance.

TRURO, ROYAL CORNWALL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with rooms, board, and washing.

WAKEFIELD, WEST RIDING ASYLUM.—Assistant Medical Officer. Salary £140 per annum, with apartments, board, washing, and attendance.

WEST BROMWICH DISTRICT HOSPITAL.—Assistant Resident House Surgeon, unmarried. Salary £75 per annum, with board, residence, and washing.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Two House Physicians and Three House Surgeons for six months. Board, lodging, and laundry allowance provided.

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL.—House Physician.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory and Workshop Act at Glasgow, in the county of Lanark.

Births, Marriages, and Deaths.

BIRTHS.

BEATH.—On Feb. 7th, at Barnard House, Bath, the wife of David Leslie Beath, M.R.C.S., L.R.C.P., of a daughter.

CARMODY.—On Feb. 8th, at "Mayaro," Tilehurst, Berks, the wife of Ernest P. Carmody, M.R.C.S., L.R.C.P., of a son.

DRUITT.—On Feb. 10th, at Parkfields, Alvaston, the wife of Claud Francis Druitt, M.R.C.S., L.R.C.P., of a daughter.

DEATHS.

CRAWFORD.—On Feb. 7th, at 40, Rodney-street, Liverpool, in his 75th year, Joseph Dawson Crawford, M.D., F.R.C.S. Edin., formerly Senior Surgeon to the Liverpool Hospital for Cancer and Skin Diseases. Interred at Smithdown-road Cemetery, Liverpool, on Feb. 11th. (Friends will kindly accept this, the only, intimation.)

HORLEY.—On Feb. 7th, at St. Catherine's-terrace, Hove, William Lewis Horley, M.R.C.S., L.S.A., in his 85th year.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

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Notes, Short Comments, and Answers to Correspondents.

ENCEINTE.

To the Editor of THE LANCET.

SIR,—In reply to Dr. Cordes, I quite recognise that we must always hold in due reverence the opinions of established authorities, but at the same time it is possible while doing so to retain a certain amount of healthy doubt about some of their rulings, otherwise errors and imperfections would remain and advance be rendered impossible. There have been many disputed etymologies, and what passed muster a century ago in this respect will not do so to-day always. Ménage died in 1692, which is a long time ago. Scheler only died in 1890. Littré died in 1881, and was succeeded by Brachet, whose work is well known and highly appreciated. Of the old etymologists it could be said of more than one of their explanations, "*Se non è vero, è ben trovato.*" Dr. Meissner, in his "Philology of the French Language," said that Ménage deliberately invented certain words which never existed in order to explain some of his etymology. I will cite Bescherelle upon the word "*Enceindre.*" He says, "étymologie, lat., in, *dans*; cingere, *ceindre, entourer*," and he says that "Enceint, enceinte," are "part. pass. du verbe Enceindre. S'empl. adjectiv. Entouré," and immediately following he gives as an example "*Femme enceinte.*" The past participle cannot surely differ in etymology from the infinitive of the verb. Bescherelle did not have a high opinion of some of the authorities quoted by Dr. Cordes, which fact he states in his preface. It will be noted that Bescherelle considered the Latin "In" in this connexion to mean "Dans." The example usually given of the opposite is the French word "ennemi" from the Latin *inimicus*, but "en" in French nearly always means "in" or "away." The latter sense is seen in "envoyer" from old French "entvoyer," Low Latin, *inde-viare*. The privative Latin "In" is nearly always "In" in French.

The Latin had the following words for "ungirt" or "loosely attired"—viz., "Discinctus" and "Recinctus." From the first named was derived the French "Dessanglé," meaning "ungirt." The English language also has "Ingirt" and "Engirt," but we do not accept the prefixes "in" and "en" as being privative. We use the word "Ungirt," the "Un" being the strong privative prefix used with participles.

Regarding the objection by Dr. Cordes that "it is not the lady who is cloistered but the child," I purposely said in my previous letter, "If we had retained and *shortened* the old expression." To illustrate this better I will quote the following expression from Spenser's "Faerie Queene," viz., "Me then he left enwombed of this child." In oblique narration, "She was then left enwombed of that child by him," and as cloister was a synonym for "womb" it could have been said, "She was then left encloistered" (or "cloistered"), the words "of the child" being understood. These old expressions are sometimes puzzling. For instance, the expression "she was delivered of a child" could be taken in two senses, but one is guided by common knowledge in interpreting what is meant. There is a striking line in the Bible which says, "A woman shall compass a man" ("encompass" in the Revised Version). This is stated by authorities to mean, "A virgin shall conceive a male child." The word compass here is surely used in the sense of "*entourer*," to enclose, or surround. The French is "La femme environnera l'homme" and the Spanish "El hembra rodeará al varon." There is a Spanish word for pregnant which is significant. It is "embarazada" which also means "embarrassed," i.e., "barred in." The ultimate authority of several French etymologists for "incincta" is Isidore of Seville (or Isidorus Hispalensis) who died in 636 A.D. It would not be difficult to make out a plausible case for "in sinus" or "insinuatus." The word "sein" in French is derived from sinus, and there is an obsolete law term "enseint" meaning pregnant.

The following first three stanzas of "Childe Waters," from Percy's Reliques of Ancient English Poetry, may be of interest:—

"Childe Waters in his stable stoode,
And stroakt his milke-white steede;
To him a fayre yonge ladye came
As ever ware woman's weede.

Sayes, Christ you save, good Childe Waters;
Sayes, Christ you save, and see:
My girdle of gold that was too longe,
Is now too short for mee.

And all is with one chyld of yours,
I feele sturre att my side:
My gowne of greene it is too straighte;
Before, it was too wide."

The lady, I take it, has not abandoned her girdle, but in the circumstances would have liked it rather longer.

I am, Sir, yours faithfully,

Feb. 11th, 1911. BLANCUS.

A NEW PRIMARY BATTERY.

WE have recently had an opportunity of testing the Silvertown Bleeck-Love primary battery and the results were quite satisfactory. It is a two-fluid cell consisting of a porous pot holding the excitant and zinc and an outer vessel of glass or other material containing the depolariser in which the negative plate—a perforated carbon cylinder—is immersed. The obvious advantages of the cell are that it has a remarkably high E.M.F., low internal resistance, great current capacity, and, as we ourselves have found, a constant and steady output. The zinc consumption is small. Two cells on one charge will, it is stated, run a 7-inch fan for 36 hours, or a 4-volt 4-c.p. lamp for 18 hours, or will charge a 20-ampère-hour 4-volt accumulator in 16 hours. The number of applications to which this cell may usefully be put barely needs pointing out, but mention may be made in these columns of X ray and surgical work. The cell was submitted to us by the Indiarubber, Gutta Percha, and Telegraph Works Company, Limited, of Silvertown and 106, Cannon-street, London, E.C.

"MERCK'S INDEX."

THE third edition of "Merck's Index" has been published, and copies may be obtained at the London office, 16, Jewry-street, E.C. It is a wide and comprehensive work of reference on materia medica, pharmacology, and pharmacy, and the subject-matter is brought into line with the advances made up to the end of May, 1910.

"ROUNDED-OFF" ATOMIC WEIGHTS.

THE atomic weights of elements employed in the pharmacopœias of different nations show considerable variation in magnitude, particularly with regard to the first, second, and third place of decimals. In the opinion of Mr. W. H. Martindale, Ph.D., who read a paper on the subject at an evening meeting of the Pharmaceutical Society on Feb. 7th, it might be better to do away with the decimal proportions, excepting perhaps in the case of chlorine, copper, and st ntium. Such a series of rounded-off figures would be sufficiently ac urate for pharmaceutical work, and Mr. Martindale suggests that the matter might be considered in connexion with the revision of the British Pharmacopœia.

E. T.—A paraffin stove which gives off an offensive fume or smell is obviously a source of disturbance to the health.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

WE shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses. It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement. The following Congresses, Conferences, and Exhibitions are announced for February, March, and April, 1911:—

Feb. 20th–25th (Cairo).—Fifth International Congress for the Blind.
March 2nd–6th (Berlin).—Thirty-second Balneological Congress.
" 23rd (Paris).—First Congress of French Medical Journalists.
" 28th–April 25th (Tunis).—Exhibition of Hygiene.
April 4th–7th (London).—Fourth Annual Nursing and Midwifery Conference and Exhibition.
" 18th–20th (Paris).—Third Congress of Physiotherapy of French-speaking Physicians.
" 18th (Berlin).—Tenth Congress of the German Orthopædic Surgery Society.
" 19th–22nd (Berlin).—German Surgical Congress. (Fortieth Annual Meeting.)
" 19th–22nd (Wiesbaden).—Twenty-eighth German Congress of Internal Medicine.
" 20th–22nd (Groningen).—Thirteenth Nature and Medical Congress.

The following journals, magazines, &c., have been received:—The Selborne Magazine, Il Morgagni, Rivista Ospedaliera, La Presse Médicale d'Egypte, Pioneer Mail, Bulletins et Mémoires de la Société Médicale des Hôpitaux de Paris, Le Progrès Médical, Archives de Médecine et de Pharmacie Militaires, Indian Public Health, Transactions of the Society of Tropical Medicine and Hygiene, Indian Medical Gazette, Indian Engineering, Archives of the Roentgen Ray, Gazette Médicale de Paris, The Middlesex Hospital Journal, Liverpool Medico-Chirurgical Journal, Review of Neurology and Psychiatry, Philippine Journal of Science, Die Therapie der Gegenwart, La Semana Medica, Bulletin de l'Académie de Médecine, The Clinical Journal, St. George's Hospital Gazette, National Health, Journal of Laryngology, Rhinology, and Otology, American Journal of Medical Sciences, Detroit Medical Journal, Archives of Internal Medicine, Engineer, Scientific American, Tuberculosis, La Presse Médicale Belge, Gazzetta degli Ospedali, Gazette des Sciences Médicales de Bordeaux, Revue de Médecine, Revue de Chirurgie, La Clinique Ophtalmologique, Bulletins et Mémoires de la Société de Radiologie Médicale de Paris, Paris Médical, Revue Française de Médecine et Chirurgie, Monthly Cyclopædia, Allgemeine Medizinische Central-Zeitung, Cadiz Medico, International Journal of Surgery, L'Hygiene de la Viande et du Lait, La Policlinique, The Public Health Journal of Canada, The Official Gazette of the United States Patent Office,

N BINDING

Journal of the Royal Institute of Public Health, Local Government Chronicle, Midland Medical Journal, Maryland Medical Journal, The Cleveland Medical Journal, The Boston Medical and Surgical Journal, New York Medical Journal, Journal of the American Medical Association, Army and Navy Gazette.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 15, Cavendish-square, W. (temporary address during building of new house).

TUESDAY.

THERAPEUTICAL AND PHARMACOLOGICAL SECTION (Hon. Secretaries—H. Charles Cameron, H. H. Dale): at 4.30 P.M.

Dr. A. P. Beddard: Some Points in the Treatment of Lobar Pneumonia.

Mr. F. R. Smyth: The Use of Local Anæsthetics in the Mouth.

(Members of the Odontological Section and Section of Anæsthetics are invited to take part in the Discussion.)

PATHOLOGICAL SECTION (Hon. Secretaries—C. Bolton, J. C. G. Ledingham): at 8.30 P.M.

Dr. A. G. Levy: Asphyxia under Chloroform.

Dr. B. H. Wedd: Multiple Submucous Tumours in the Small Intestine associated with Carcinoma of the Larynx.

Mr. S. G. Shattock: Lamarckism and Callosities.

Dr. A. E. Boycott: Uterine Tumours in Rabbits.

FRIDAY.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN (Hon. Secretaries—J. P. Lockhart Mummery, T. R. Whipham, G. S. Haynes) at 11, Chandos-street, W.: at 4.30 P.M.

Cases and Specimens:

Dr. Bellingham Smith: Spasmus Nutans.

Dr. Porter Parkinson: Congenital Dilatation of the Colon.

Dr. A. W. G. Woodforde: Delayed Chloroform Poisoning.

And other Cases.

Paper:

Mr. Sydney Stephenson: Oculomotor Type of Poliocencephalitis.

EPIDEMIOLOGICAL SECTION (Hon. Secretaries—W. H. Hamer, G. S. Buchanan): at 8.30 P.M.

Paper:

Dr. W. G. Savage: Diseases of the Cow (excluding Tuberculosis) Affecting the Milk in their Relationship to Human Disease.

ANNOUNCEMENTS.

ODONTOLOGICAL SECTION:—At the next Meeting on Monday, Feb. 27th, at 8 P.M.

Paper:

Mr. A. H. Johnson and Mr. A. Hopewell Smith: A Case of Multiple Supernumerary Teeth preceding a Central Incisor.

Casual Communications:

Mr. T. Stordy: Absorption of a Permanent Molar Due to an Unerupted Premolar.

Mr. W. de C. Prideaux: (1) Three Cases of Torus Palatinus; (2) Skull from a Barrow showing somewhat Symmetrical Mandibular Exostoses.

NEUROLOGICAL SECTION:—The next Meeting of this Section has been adjourned until Thursday, March 2nd, and will be held at the National Hospital, Queen-square.

GENERAL MEETING OF FELLOWS, Friday, March 10th, at 4.45 P.M. Candidates for Fellowship. The following will be Balloted for:—

Arthur Henry Burgess, F.R.C.S., M.B., Ch.B., L.R.C.P.; Arthur Edmund Carver, M.D., M.R.C.P.; Eleanor Davies-Colley, M.D., B.S.; William James Foster, F.R.C.S., L.R.C.P.; Harold Delf Gillies, F.R.C.S.; Philip Maynard Heath, M.S., F.R.C.S.; Ludwig Witold Rajchman, M.D.; Henry Francis Arthur Steele, M.R.C.S., L.S.A.; John O. Symes, M.D., D.P.H., M.R.C.S., L.R.C.P.; George Bertram Walmwright, M.B., B.C., M.R.C.S., L.R.C.P.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—9 P.M., Lettsomian Lecture:—Mr. W. F. Haslam: A Review of the Operations for Stone in the Male Bladder. (Lecture II.)

MEDICO-LEGAL SOCIETY, 11, Chandos-street, Cavendish-square, W.

TUESDAY.—8.30 P.M., Mr. L. H. Guest: The Administration of the Law relating to the Medical Inspection and Treatment of School Children.

ROYAL STATISTICAL SOCIETY, Rooms of the Royal Society of Arts, John Street, Adelphi, W.C.

TUESDAY.—5 P.M., Mr. M. Greenwood, jun., and Mr. R. H. Candy: The Fatality of Fractures of the Lower Extremity and of Lobar Pneumonia. A Study of Hospital Mortality Rates, 1751-1901.

HUNTERIAN SOCIETY, The Library, St. Bartholomew's Hospital.

WEDNESDAY.—4 P.M., Clinical Afternoon.

CHILD STUDY SOCIETY, LONDON, 90, Buckingham-Palace-road, S.W.

THURSDAY.—7.30 P.M., Discussion:—Should Games be Organised? (In favour: Miss M. E. Nuth. Against: Dr. T. H. Hayward.)

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

MONDAY, WEDNESDAY, AND FRIDAY.—5 P.M., Prof. A. Keith: The Fossil Remains of Man and their Bearing on the Origin of Modern British Types (illustrated by means of the epidiascope). (Hunterian Lecture.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. J. M. H. MacLeod: Clinique (Skin). 5.15 P.M., Lecture:—Dr. H. D. Rolleston: Some Aspects of Lymphadenoma.

TUESDAY.—4 P.M., Dr. J. J. Perkins: Clinique (Medical). 5.15 P.M., Lecture:—Mr. A. Edmunds: The Surgical Treatment of Tumours of the Breast.

WEDNESDAY.—4 P.M., Mr. F. C. Wallis: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. W. H. Kelson: Some Common Affections of the Ear (illustrative cases).

THURSDAY.—4 P.M., Dr. T. Thompson: Clinique (Medical). 5.15 P.M., Lecture:—Dr. W. Hill: Demonstration of a New Method, combining Direct and Indirect Gastroscopy.

FRIDAY.—4 P.M., Mr. E. Clarke: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Surgical Registrar: Demonstration of Cases in Wards. Dr. Simson: Diseases of Women. 12 noon: Pathological Demonstration:—Dr. Bernstein. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Etherington-Smith: Clinical (Lecture II.).

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 11.30 A.M.: Mr. Etherington-Smith: Demonstration of Minor Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Pritchard: Practical Medicine.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Dr. Simson: Gynæcological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Mr. B. Harman: Diseases of the Eye. 2.30 P.M., Dr. Simson: Diseases of Women. 5 P.M., Lecture:—Mr. Ll. Williams: Oral Conditions in their Relation to General Conditions of Health or Disease.

THURSDAY.—10 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12.15 P.M., Lecture: Dr. G. Stewart: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Mr. Baldwin: Practical Surgery (Lecture V.).

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Mr. R. Lloyd: Anæsthetics.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 2 P.M., Medical and Surgical Clinics. X Rays. Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Mr. Turner: Surgery. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.30 P.M., Mr. R. Lake: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

TUESDAY.—2 P.M., Operations. 3.15 P.M., Dr. R. Wells: Medicine. 3.15 P.M., Mr. R. Carling: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 4.30 P.M., Special Lecture:—Prof. Hewlett: Recent Researches on the Micro-organisms of Certain Diseases.

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4.30 P.M., Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 4.30 P.M., Special Lecture:—Mr. H. Curtis: On Gummata.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 2.15 P.M., Special Lecture:—Dr. R. Bradford: Palpitation.

SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. E. Gillespie), 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. W. Carson).

TUESDAY.—Clinic:—10 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Operations. Clinics:—Surgical (Mr. Howell Evans); Gynæcological (Dr. A. E. Giles). 3.30 P.M., Medical In-patient: (Dr. A. J. Whiting). 4.30 P.M., Lecture:—Dr. R. M. Leslie: Enteroptosis and its Treatment.

WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 3 P.M., X Rays (Dr. A. H. Pirie).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson). 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Lecture-Demonstration:—Dr. Hadfield: Anæsthetics.

FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. E. Gillespie); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie).

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture:—Sir Victor Horsley: Surgery of the Nervous System.

FRIDAY.—3.30 P.M., Clinical Lecture:—Dr. A. Turner: Peripheral Neuritis.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.

TUESDAY.—3.45 P.M., Lecture:—Mr. Stuart-Low: Method of Examination.

FRIDAY.—3.45 P.M., Lecture:—Dr. D. Grant: Some Appliances of Use to the Practitioner in Diseases of the Throat, Nose, and Ear.

HOSPITAL FOR SICK CHILDREN (UNIVERSITY OF LONDON), Great Ormond-street, W.C.
TUESDAY.—5.15 P.M., Demonstration:—Mr. O. L. Addison: General Surgical Diseases—Affections of the Middle Ear and Mastoid Complications. (Special Post-Graduate Course.)
THURSDAY.—4 P.M., Demonstration—Dr. Frew: Pathological
FRIDAY.—5.15 P.M., Demonstration:—Mr. O. L. Addison: General Surgical Diseases—Respiratory System, Foreign Body, Laryngeal Obstruction, Empyema. (Special Post-Graduate Course.)

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square, W.C.
THURSDAY.—6 P.M., Chesterfield Lecture:—Dr. M. Dockrell: The Solution of the Confusion between Pityriasis Rubra Pilaris and Lichen and the Treatment of Each.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.
WEDNESDAY.—4 P.M., Lecture:—Dr. S. Melville: Some Points on the Radiography of the Chest.

ANCOATS HOSPITAL, Manchester.
THURSDAY.—4.15 P.M., Dr. J. K. S. Bythell: Screen Examination of Chest Cases. (Post-Graduate Clinic.)

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (20th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), Central London Throat and Ear (Minor 9 A.M., Major 2 P.M.).

TUESDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.), Royal National Orthopædic (9.30 A.M. and 4 P.M.).

WEDNESDAY (22nd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (23rd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal National Orthopædic (9 A.M. and 3.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

FRIDAY (24th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Royal National Orthopædic (3.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

SATURDAY (25th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic (2 P.M.) Hospitals operations are performed daily.

EDITORIAL NOTICES.

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The Index and Title-page to Vol. II. of 1910 were given in THE LANCET of Dec. 31st, 1910.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 15th, 1911.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain fall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Feb. 9	30·48	S.	...	45	40	38	35	38	Fine
,, 10	30·03	S.E.	...	62	43	32	32	33	Fine
,, 11	30·06	W.	0·13	69	46	33	37	38	Cloudy
,, 12	30·30	W.	...	63	45	31	31	35	Cloudy
,, 13	30·47	S.W.	...	50	46	35	39	40	Foggy
,, 14	30·52	S.W.	...	70	47	35	35	36	Fine
,, 15	30·43	W.	0·09	81	49	36	44	45	Overcast

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